JPRS 76488

24 September 1980

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 132

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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REPORTAGE ON AFRICAN COMMUNICATIONS POLICY CONFERENCE

London WEST AFRICA in English 25 Aug 80 pp 1599-1602

[Article by David Ndifnag: "Ending Colonialism in Communications"]

[Text] A UNESCO SPONSORED intergovernmental conference on Communication policies in Africa, "AFRICOM '80" ended recently in the Cameroonien capital Yaounde, with the adoption of a strongly worded manifesto known as the "Yaounde Declaration."

The conference, the first of its kind held in Cameroon, and attended by 104 delegates from Africa including other participants from other Third World countries and non-aligned countries, called for a radical change in the relationship of communication knowledge, money and power. The Yaounde manifesto also recognised that the shortage of both financial and human resources is the major obstacle hampering the elaboration and satisfactory implementation of national communication policies in Africa. It then called for increased access by the rural areas to information; freedom of information for all guaranteed, the flow of news facilitated and the improvement of journalists condition of service. The conference then appealed strongly to UNESCO and other world bodies to collaborate with them to establish what they termed "a new communication and information order."

The main objectives of the AFRICOM '80 Yaounde conference were: an assessment of the problems and perspectives of communication in Africa; the role of communication in a global approach to development with particular reference to education, culture, science and technology; an analysis of the implications of developing modern national communication systems; the determination of needs and priorities and discussion of issues connected with technical co-operation between African countries and the international community.

Africom '80, was the third in a series of regional conferences on communication policies. The first was held in San Jose, Costa Rica, for Latin America and the Caribbean in 1976, and the second in Kuala Lumpur (Malaysia) for Asia and Oceania in 1979. In order to prepare for the Yaounde conference just ended in Cameroon, African information authorities, journalists and communications scholars had earlier held three consultative meetings in Dakar, Freetown and Nairobi. In addition to these meetings, a number of studies commissioned by UNESCO were undertaken on communication problems in Africa. These, together with the conclusions of the various consultative meetings provided elements for the main working documents for the conference.

Meanwhile, Cameroon's President Ahmadou Ahidjo in his opening speech, first welcomed the delegates to the conference including the UNESCO Director-General Mr. Amadou-Mahtar M'Bow who apart from attending the 10-day Africom '80 conference had come also to pay an official visit to Cameroon where he and Mme M'Bow visited nearly all the important provinces in the country.

In his opening speech, President Ahidjo said, "It is our conviction that the world today needs modern communication systems which, instead of reinforcing dependence and domination through ideological or cultural subjugation, may rather help to foster dialogue and communication between peoples, promote scientific, technological and educational development; facilitate the adaptation of technologies to the realities of needs of each nation and allow the affirmation or reaffirmation of national values by peoples whose awareness of their identity is based upon a long history, in word, to create the conditions for giving and receiving, that is to say for a free and balanced exchange."

Most delegates during the conference's plenary session, kept on echoing parts of President Ahidjo's inaugural speech in which he said, "... the definition of a specific policy on information requires, within the framework of self-reliant development, the revival of our traditional means of communication because the freedom of speech we are advocating here should not exempt us from fulfilling a basic cultural requirement, namely, that which calls for the assertion of the Cameroonian and African personality in all fields."

The UNESCO Director-General, Mr. Amadou Mahtar M'Bow, told the conference, "There can be no question of foregoing the advantages of contemporary technology; rather, the necessary links need to be made between the living forms of inter-personal and community communication and the mass media." And he went on to add, "it appears essential for there to be developed in the world, a communication network consisting of a large number of systems tailor-made to each society, in which advanced technologies, instead of imposing a hard-and-fast single model everywhere, may flexibly be adjusted to the needs of all human communities."

Many of the delegates described in detail the present state of development of their respective communications infrastructure and the current needs and priorities as perceived by their different governments.

Text of the Yaounde Declaration

We the representatives of the African Member States of the United Nations Educational, Scientific and Cultural Organisation (UNESCO), meeting in Yaounde (Cameroon) from 22 to 31 July 1980 at the Intergovernmental Conference on Communication Policies in Africa, mindful of the great significance of the Universal Declaration of Human Rights and of the necessity of the fullest application of all its principles, recalling that one of the cardinal principles of human rights is the right to knowledge and education, and that communication, always an important tool for the flow of information and a vehicle for the acquisition of knowledge and know-how, has assumed a more important dimension in the life of societies because of the progress communication has recently made as well as the possibilities it offers for greater communicability among men and among peoples.

Mindful of the irreplaceable role that the mass media can play in building young nations, ensuring mutual respect among peoples, international understanding, educational and scientific progress, and strengthening cultural identity, as well as in eliminating racialism and apartheid, mindful that Africa has not so far been able to benefit fully from the possibilities afforded by the extraordinary advances in communication, science and technology, and that even though Africa has made significant strides towards the achievement of political freedom, the African man's search for the knowledge and information to which he has a right is seriously hampered by the great difficulties and numerous obstacles that he encounters in the field of communications in Africa, noting that, to remedy the imbalances that are becoming steadily more pronounced between the different nations of the world, particularly between the highly industrialised countries and the Third World countries, there is an urgent need to improve the structure of communication in Africa and the present arrangement for news exchanges between it and the other continents, declare as follows:

I

In Africa, in the communication field more perhaps than in any other, the prevailing situation is the direct result of the heritage of colonisation. Political independence has not always been followed by a decolonisation of cultural life or by the elimination of many alienating factors imposed by the colonial system. Communication structures often still conform to the old colonial patterns and not to the need and aspirations of the African peoples.

We are resolved to decolonise them in their turn. Africa's future depends on the extent to which opportunities for social communication are offered to the various social, cultural, political and economic groups that currently make up the societies of the region.

There is an urgent need to give higher priority to the formulation of global integrated policies in the field of culture and communication, to the establishment and expansion of infrastructures for the exchange of information and cultural life, and to the endogenous production of all kinds of messages and cultural products.

II

Since their accession to independence, all African countries have set themselves fundamental economic, social and cultural objectives in order to overcome the serious handicaps stemming from the after-effects of the long period of the slave trade and colonisation. For many of them national cohesiveness and social integration within the overall framework of progress is of crucial importance. Africa has also embarked on the struggle for peace, overall development, the promotion of human rights, freedom of expression and equality between the sexes; similarly, it is resolutely fighting illiteracy, disease, hunger and all forms of social inequality.

We consider that if information organs are systematically used to strengthen national unity, mobilise energies for development through greater participation by popular masses to information, and to reinforce African solidarity and combat all that divides the African continent and prevents it from asserting itself in all its dignity, this would be a means of liberation and an expression of our peoples' freedom.

The Declaration on Fundamental Principles concerning the Contribution of the Mass Media to Strengthening Peace and International Understanding, to the Promotion of Human Rights and to countering Racialism, Apartheid and Incitement to War, which the General Conference of UNESCO adopted at its twentieth session, highlights the responsibility of the mass media in combating the great scourges of mankind and in achieving its most noble ideals. Large-scale action by the mass media and the news agencies, both public and private, can facilitate positive mobilisation of the creativity of the rural and urban masses. This national effort, which presupposes a qualitatively new role for communication, should imply no contradiction or inconsistency between free access to information and the requirements of development. We need a new conception of freedom of information such as will truly enfranchise men and society instead of subjecting them to the conditioning of those who control the powerful communication media; such as will contribute to the democratisation of communication and recognise the rights of individuals and peoples to be informed, to inform and freely to express themselves.

III

We Africans, like all other peoples, have inherited from the past great works of art, brilliant cultural traditions, undeniable original ways of thinking and modes of social life — and entire heritage of knowledge and wisdom of inestimable value. The forms of traditional and interpersonal communication have always been a powerful instrument for transmitting knowledge and the legacy of values accumulated within our societies. They have played an essential part in the fight to throw off the colonial yoke and unify the historical components of our identity. The multiplicity of our languages, instead of being a cause of divisiveness and conflict, may — once it is taken into consideration as part of a rational communication policy — be seen as source of mutual enrichment and a further sign of the strength of the Africa of tomorrow.

Africa represents a special human context, in which the living forms of traditional communication can be harmoniously linked up with the boldest conquests of modern communications. The systematic use of local and national languages by the various media can help to prevent the gulf between the ordinary people and the elites from widening. Modern means of communication, by disseminating culture to a vast national and regional public, will enable each African people to gain deeper insight into their own personality and likewise to discover that of other countries. The multiplicity of languages and cultures should be regarded not as a problem but as a historical reality whose causes it is important to understand in order better to shape in future.

IV

In Africa may be found a broad spectrum of communication technologies in use today, from the most ancient to the most recent. Messages and knowledge are exchanged by a variety of means ranging from ritual to the computer and from the tom-tom to the satellite.

The use of small-scale media and traditional circuits is not incompatible with advanced technologies. In the overall development effort simple and low-cost technologies can be associated with the use of the most sophisticated media.

The expansion of radio broadcasting does not replace the need for printed information, just as the spoken word does not replace the written word and television does not replace the traditional palaver. Consideration must be given to the use of computers, the establishment of earth stations for satellites and the setting up of data banks, while simultaneously developing telecommunication networks. Computer technology is not an affair of the future: it must be mastered today. Communication methods and media vary enormously; each country must clear-headedly and judiciously make its own choice.

V

Many obstacles still hamper the drawing up and satisfactory implementation of national communication policies. Shortage of resources, both human and financial, is the major obstacle, but the rural areas' access to information must be increased, freedom of information guaranteed, the flow of news facilitated and journalists' conditions of work improved.

In addition to the internal obstacles there are also in particular the gross disproportion in communication capacity as between the industrialised and the developing countries, and the grip of the multinationals on world communication. The dearth of bilateral and multilateral help for the development of communications in African countries is also be deplored.

But the solution of communication problems cannot be reduced simply to the transfer of technology or the mere redistribution of resources, although both for Africa and for the world these measures are an essential part of a new information and communication order. The solution of our problems remains intimately bound up with the defence of the fundamental freedoms of individuals and peoples — all peoples, and especially those who still remain the most under-privileged. Hence in the last analysis it is bound up with a radical change in the relationship of communication to knowledge, money and power.

It is also necessary to mobilise more national resources for the needs of communication through active participation by users. We think that this democratisation presupposes avoiding control by selfish pressure groups over the means of communication or their surrender to private interests alone to the exclusive benefit of the communication multilaterals or monopoly by information professionals. We consider that we must deploy special efforts to increase the endogenous supply of messages of all kinds in order to fill the gaps which benefits external producers of messages, and in particular of non-African radio broadcasts, and is sometimes used to justify restrictive measures.

VI

The success of development in African countries will increasingly depend on the practice of collective self-reliance. This policy, based on increased confidence in inner resources and their capacity for innovation, is the only one calculated to reduce excessive dependence on the outside world. This is true in politics as in culture, in economics as in communication.

Communication and access to communication represent an individual and collective right, instead of being the prerogative of those who possess information facilities. We are therefore resolved to work to help change the present situation, in which man is all too often subjected to news framed by his aspirations and meet his needs. What goes for man goes for African nations: each should become more the subject and originator of its own communication activities.

We must do everything we can, and the international community just help us in this, to achieve independence in the field of communication as we have in the political field, by building communication systems which meet our needs, bear the stamp of our genius, and take account of our situation, needs and aspirations and make it possible to establish relationships of equality and dignity with the rest of the world.

If we need to learn from others, we want their teaching to respect our dignity and be suited to our own needs and priorities. We are fully aware of the fact that Africa also is capable of contributing to the enrichment of the work heritage in the field of culture and communication.

We affirm our collective will, following this meeting in Yaounde, to work with all our strength for the changes called for by the present world situation, so that each people may freely inform and be informed, full respect being accorded to their dignity. We are determined to work for the strengthening of our communication capacity.

We are prepared to co-operate with all those who, recognising the need for solidarity among all peoples, are willing to co-operate with us to end the imbalances and historical dependence under which Africa is labouring in the sphere of information and communication.

We consider that all the competent regional and international organisations have a duty to co-operate with us with a view to eliminating all the obstacles that prevent us from affirming our African identity and from enjoying freely and fully the freedom for which we have fought so hard.

We undertake to co-operate more closely with each other in the pursuit of our objectives, aware of our common destiny, the congruence of our aspirations and the complementarity of all our countries and also of the need to make more rational use of our limited resources through the widest and most fruitful regional co-operation.

We appeal to UNESCO and the other bodies and agencies of the United Nations system to collaborate with us to establish a new communication and information order such as to allow complete self-fulfilment for all peoples in peace, justice and freedom.

Note (1) The above document is slightly different from the official declaration read out to the conference at the closing session. However, substantially the two are basically the same.

CSO: 5500

MICROWAVE LINK BETWEEN SAUDI ARABIA, SUDAN

Khartoum SUDANOW in English Aug 80 p 27

[Text] The installation last month of the remaining 180 channels of the 300 channel Red Sea Microwave Link between Sudan and Saudi Arabia has brought direct telephone subscriber dialling a step nearer. The automatic exchange device, which will be the final link in the system, is expected to be installed in Khartoum late next year.

The 355 kilometre microwave link between Port Sudan and Taif in Saudi Arabia was the subject of an $8 million project awarded to the Italian telecommunications engineers, Teletra, in March 1978--the first such project handled by the company. This link is to be part of the proposed Pan Arab-Pan African communications network.

The first 120 channels were installed in December last year, seven months late. Of these, ten channels--five each way--are currently working semi-automatically. The remaining channels will come into operation when the whole system is inaugurated next year. Until December, there had been only three manually-operated circuits linking Sudan to the Kingdom.

Saudi Arabia, which is picking up the $8 million bill, is to make available a further $1.6 million to upgrade four radio relay stations built by Teletra between Khartoum and Port Sudan.

Phase 1 of the project--the 120 channel link between the 2,217 metre Jebel Erba 140 kilometres north of Port Sudan to Jebel Bakak above Taif--was handed over to the Sudanese government last December. Mr Abdalla el Nur, the manager of the project at Port Sudan, said, "It is already a success. In February alone, the revenue from the link was some £s21,000.'

Two characteristics of the microwave link make it a breakthrough in telecommunications engineering. In the first place, the 355 kilometre link is the longest point-to-point transmission anywhere in the world, and avoids the necessity of building relay towers in the Red Sea to overcome the curvature of the Earth.

Secondly, the mountain-top stations in both countries are entirely solar-powered telecommunications stations, each with a continuous output of 1.5 kilowatts.

'The inaccessibility of this area was the main reason for our choosing to make the station solar-powered,' explained Mr Abdalla el Nur. The station is operated by remote control from Port Sudan. Siting the station on a mountain top also meant that the equipment had to be carried onto Jebel Erba by helicopter. There were further delays and headaches when the Customs department demanded some £s125,000 in import duties.

Further delays were caused 'as a result of bad planning in the ministry,' as one engineer put it. Because some of the channels were of the wrong type, there were technical problems, with one series of channels jamming the others. This problem has now been rectified, said the engineer.

In Phase II in late 1981, all major towns in Sudan and Saudi Arabia are expected to be linked by microwave, allowing 300 telephone conversations, colour television and telegraphic communications to be transmitted simultaneously. If successful, said the general manager, the number of channels may be doubled to 600.

CSO: 5500

SRI LANKA MINISTER ADDRESSES ASIA-PACIFIC BROADCAST UNION SESSION

BK291537 Hong Kong AFP in English 1443 GMT 29 Aug 80

[Excerpt] Colombo, 29 Aug (AFP)--Sri Lanka's Minister of State Anandatissa de Alwis today told the 17th General Assembly of the Asia-Pacific Broadcasting Union (ABU) that countries of this region should consider launching their own communications satellites.

Pointing out that some countries in the region have the technical know-how to place satellites in orbit, the minister said they should pool their resources to have their own satellites.

About 150 delegates from 68 member and associate member countries are attending the four-day conference which will discuss ways of promoting co-operation in training personnel and exchanging broadcasting and television programs. It will also discuss better co-ordination over the control of frequency allocations.

The ABU, established in 1964, is a professional union of broadcasting organisations whose aim is to assist in the development of radio and television in the countries of the Asia and Pacific region.

Mr de Alwis, a former journalist, who is minister in charge of broadcasting, television and information in Sri Lanka, "8," (36-note address at the inaugural session) deplored that there was very little exchange of broadcasting material among countries of the region.

He said most countries of the region looked to the West for their programs. They want to be as good as the British Broadcasting Corporation (BBC) or other Western stations he said.

"Our emphasis is not on Asia or the Pacific. Our emphasis is Western. We know more about Western countries than about countries of the region," he said.

Explaining that this was because many countries in this region had been under Western rule, he emphasised that "in Asia we must set standards of our own," Asia and the Pacific region have their own cultural values very different from those of other regions, Mr de Alwis said.

CSO: 5500

REPORT ON FRENCH-MOROCCAN COOPERATION ON RADIO STATION

LD031554 Rabat MAP in French 1000 GMT 3 Sep 80

[Summary] Paris, 3 Sep (MAP)--The weekly JEUNE AFRIQUE carries an article on Radio-Mediterranee Internationale [RMI] in its 3 September edition. The radio is being set up in Tangiers on a Franco-Moroccan initiative. It has recruited about 20 French- and Arabic-speaking journalists and announcers, all of whom have considerable broadcasting experience.

Listeners will be able to hear the radio beginning this month. Studios have already been equipped in Tangiers, but in (?a few) years it will all be moved to Nador in northern Morocco, near the Algerian border. A huge building will be constructed there to house studios, offices, and short, long and medium wave transmitters (?supplied by Thomson-France).

At the moment RMI has only the Tangiers medium wave transmitter, which is used by a regional radio covering two-thirds of Morocco. RMI intends to reach the Western Mediterranean and northwest Africa. The broadcasts will be in French and Arabic, although the proportion of these broadcasts has not yet been determined. The Moroccan authorities would like the bulk to be in Arabic.

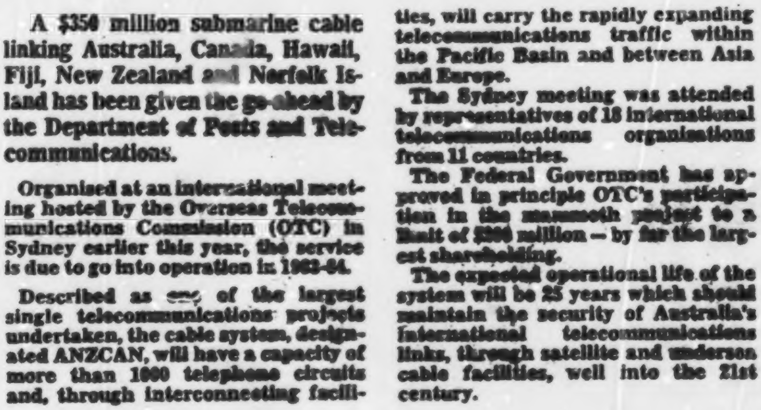
Morocco possesses the majority holding in the capital of the broadcasting company. The remainder belongs to the French Sofirad Company, which is in fact in charge of Europe No 1, Radio Monte Carlo, Sud-Radio, Sumera, and Tele-France. It is entirely under the control of the French state. The Moroccan shares are divided between the National Investments Company [SNI], the Press Broadcasting Company [SOCHEPRESS], and the Moroccan Bank for Foreign Trade [BMCE]. All of them belong to the Moroccan state. Sofirad, which is associated with the European Union Bank [BUE], Thomson and Hachette, negotiated the agreement with the Moroccan Government. RMI will be a profit-making enterprise, with much of its budget coming from advertising, like Somera-RMS, which has been covering the Middle East from Cyprus since 1973. Somera is very popular in its target countries, particularly for its objective news coverage. It broadcasts a lot of light music, appealing to young audiences. Advertising provides 75 percent of the budget and may rise to 100 percent. It charges FR900 per 30 seconds, as compared to the FR5,000 charged by Europe No 1. RMI will resemble Somera. Its personnel will be mainly Moroccan in order to forestall criticism from other countries.

CSO: 5500

APPROVAL RECEIVED FOR TRANSPACIFIC CABLE

Canberra THE FINANCIAL AUSTRALIAN in English 4 Aug 80 p 9

[Text]



A $350 million submarine cable linking Australia, Canada, Hawaii, Fiji, New Zealand and Norfolk Island has been given the go-ahead by the Department of Posts and Telecommunications.

Organised at an international meeting hosted by the Overseas Telecommunications Commission (OTC) in Sydney earlier this year, the service is due to go into operation in 1983-84.

Described as one of the largest single telecommunications projects undertaken, the cable system, designated ANZCAN, will have a capacity of more than 1000 telephone circuits and, through interconnecting facilities, will carry the rapidly expanding telecommunications traffic within the Pacific Basin and between Asia and Europe.

The Sydney meeting was attended by representatives of 18 international telecommunications organisations from 11 countries.

The Federal Government has approved in principle OTC's participation in the mammoth project to a limit of $200 million -- by far the largest shareholding.

The expected operational life of the system will be 25 years which should maintain the security of Australia's international telecommunications links, through satellite and undersea cable facilities, well into the 21st century.

CSO: 5500

BRIEFS

INDIAN SATELLITE IN FRANCE--India's first experimental communication satellite--APPLE [Ariane Passenger Payload Experiment]--will be moved to France around the 20th of next month for launching atop the Ariane launch vehicle of the European Space Agency in February next year. Professor U. R. Rao, director of the Indian Space Research Organization, said the satellite would undergo acceptance tests before finally journeying to Kourou in French Guyana for lift off. [Text] [BK241116 Delhi General Overseas Service in English 1000 GMT 24 Aug 80]

TELECOMMUNICATION LINKS--Automatic Telex links were established on 22 July between Belgrade and Beijing and Belgrade and New Delhi. Direct-dial telephone links have been opened from Belgrade to Leningrad, Kiev, Minsk and Tallin, in addition to the earlier link to Moscow. Since the second half of May, Yugoslavia has had direct-dial telephone connections with 25 European countries. The latest added to the list were Gibraltar, Portugal, Ireland, Iceland, Cyprus and Malta. [Belgrade POLITIKA in Serbo-Croatian 22 Jul 80 p 8 AU]

MONGOLIAN-SOVIET RELAY STATION--Ulaanbaatar, 19 Aug (MONTSAME)--Today's papers report that a meeting of working people has been held in Arvayheer on the occasion of the commissioning of a new radio relay line station built by Soviet and Mongolian construction workers. [Text] [Ulaanbaatar MONTSAME in Russian 1811 GMT 19 Aug 80 OW]

DPRK, ZIMBABWE BROADCASTING PACT--Pyongyang September 6 (KCNA)--An agreement on cooperation in radio and TV broadcasting between the Radio and Television Broadcasting Committee of the DPRK and the Zimbabwe Broadcasting Company, Ltd, was signed in Pyongyang on September 5. The signing ceremony was attended on our side by Kim Si-hak and other personages concerned and on the Zimbabwean side by the members of the government information delegation of the Republic of Zimbabwe headed by Nathan Shamuyarira, minister of information and tourism of Zimbabwe. The agreement was signed by Kim Si-hak and Nathan Shamuyarira. [Text] [SK060400 Pyongyang KCNA in English 0346 GMT 6 Sep 80]

FRENCH-BANGLADESH TELECOMMUNICATIONS AGREEMENT--The country's second satellite earth station will be set up with French assistance at Kaliakoir near Dacca by April next year. An agreement to this effect was signed in Dacca 28 August between the Bangladesh Posts and Telegraphs Board and the Telecommunication Agency of France. The project for setting up an Intelsat standard B earth station will involve an expenditure of 100 million taka with a foreign exchange component of 50 million taka. The earth station will establish direct telecommunication links with a number of neighboring countries. [BK301257 Dacca Overseas Service in English 0445 GMT 29 Aug 80]

IRAQI-FRENCH RADIO AGREEMENT--This morning Culture and Information Minister Latif Nasif Jasim signed three agreements with a French company regarding implementation of the shortwave radio transmission station project in Balad and the country's western and eastern radio station projects with a capacity of 2,000 kw each. The projects, which will be completed in 22 months and carried out in two stages, are aimed at transmitting Baghdad and the voice of the masses radios to parts of the world that have not been receiving Iraqi radio broadcasts so far. The above-mentioned projects include radio transmitters that transmit on mediumwaves and shortwaves whose capacity range between 500 and 2,000 kw, aerials to be directed to all parts of the world, electrical generators, public works and installations and instruments for direct control and supervision of the stations in the radio and television corporation building in Baghdad. These projects, which cost about 54 million dinars, are among the radio coverage projects planned by the Ministry of Culture and Information. The signing ceremony was attended by ministry undersecretary Taha Yasin 'Ali, director general of the Radio and Television General Corporation Hamid Sa'id, the French ambassador in Baghdad and ministry officials. [Text] [GF161410 Baghdad Domestic Service in Arabic 1130 GMT 16 Sep 80]

'CNA', 'SAPA' AGREEMENT SIGNED--Taipeh--The Central News Agency, INC and the South African Press Association signed an agreement on news exchange in Taipeh yesterday. At the signing ceremony both Mt Frank Lin, president of CNA and Mr Edwin Linington, editor of SAPA, stressed that the two agencies would strive to provide the public with accurate and impartial news in their efforts to uphold democracy and world peace. [Excerpt] [Johannesburg THE CITIZEN in English 21 Aug 80 p 8]

FRANCE FINANCES MOYABI STATION--This afternoon, France and Gabon signed two financial agreements concerning the Moyabi International Radio Center. The signing ceremony took place at the Ministry of Information and Posts and Telecommunications. The first agreement, amounting to 215 million CFA, will cover the installation work of the 500-kilowatt transmitting station set up in Moyabi, which is expected to provide better radio coverage and reception. The second, of a value of 500 million CFA, was earmarked for the operational stage of the station which is scheduled to start in January 1981. This second amount should also serve first to cover part of the training expenses of the Gabonese personnel which will work both at the Libreville and Moyabi stations and second to pay the necessary foreign experts. The agreements were signed on the Gabonese side by the minister delegate to the presidency for information, posts and telecommunications, Mr Zacharie Myboto, and on the French side by His Excellency Maurice Robert, French ambassador to Gabon. Minister Myboto expressed great satisfaction over the signing of the two agreements and commended the excellent relations between Paris and Libreville. He stressed the fact that this signing was another sign of the secular friendship binding France and Gabon, and particularly President Bongo and President Giscard d'Estaing. As for the French ambassador, he stated that the ceremony was another proof of the desire of Gabon and France to make heard their voices through the channel of this specific tool which is the Moyabi transmitting station. [Text] [AB200824 Libreville Domestic Service in French 1830 GMT 19 Aug 80]

ISLAMIC INTERNATIONAL NEWS AGENCY--Jakarta, 31 Aug (AFP)--World Islamic leaders as well as delegates from various countries have been arriving here to attend a three-day international Islamic mass media conference--the first of its kind--to be opened in Jakarta by President Suharto Monday (tomorrow). The arrivals included World Islamic League Secretary-General Shaykh Ali Harakhan, who came Saturday and was welcomed by Minister of Religion Alamsyah Ratu Perwiranegara, and Islamic Conference Organization Secretary-General Jashim Zuhairi. Sponsored by the World Islamic League and to be attended by some 300 Islamic journalists and writers from around the world, the conference is slated to set up an Islamic international news agency and discuss an Islamic journalist code of ethics. [Text] [BK311223 Hong Kong AFP in English 0423 GMT 31 Aug 80]

CSO: 5500

ABU TO INCREASE USE OF SATELLITES

Rangoon THE WORKING PEOPLE'S DAILY in English 2 Sep 80 p 1

[Text]

COLOMBO, 1 Sept—The Asia-Pacific Broadcasting Union (ABU) has agreed to increase the use of satellites and other technological advances to rectify an imbalance in the flow of information between developed and developing countries, ABU President Dr Sumadi of Indonesia said today.

Speaking to reporters after a four-day ABU General assembly, he said four immediate projects were envisaged to correct the imbalance. These were:

—To seek reduced satellite charges in general and special rates between developing countries;

—To establish—with the support of the Association of South-East Asian Nations(ASEAN)—a daily exchange of TV news in South-East Asia as a first step to set up a regional Asia-Pacific news exchange system;

—To establish, with the support of the South Pacific Forum, a radio news exchange system in the Pacific using telex with Suva, Fiji, as the coordinating centre;

—To organize an international broadcast news workshop in Djakarta next February to promote the exchange of TV news on a global basis.

Dr Sumadi said the ABU, in cooperation with other regional broadcasting unions, succeeded in acquiring TV rights of the 1982 and 1986 World Football Cup by a contract signed with the International Federation of Football Associations (FIFA) in July.

But Dr Sumadi said the delegates expressed concern at amendments made earlier this year to the Olympic charter which imposed restrictions on the coverage of Olympic Games in TV news services by broadcasting organizations which did not hold TV rights.

He said the amendment curtailed the right of the public to be informed of sporting events of worldwide interest through national news services and could lead to similar restrictions in other sports.

"ABU members have decided among other measures to approach the national Olympic committees of their own countries to retain this right," he said.

NAB/Reuter

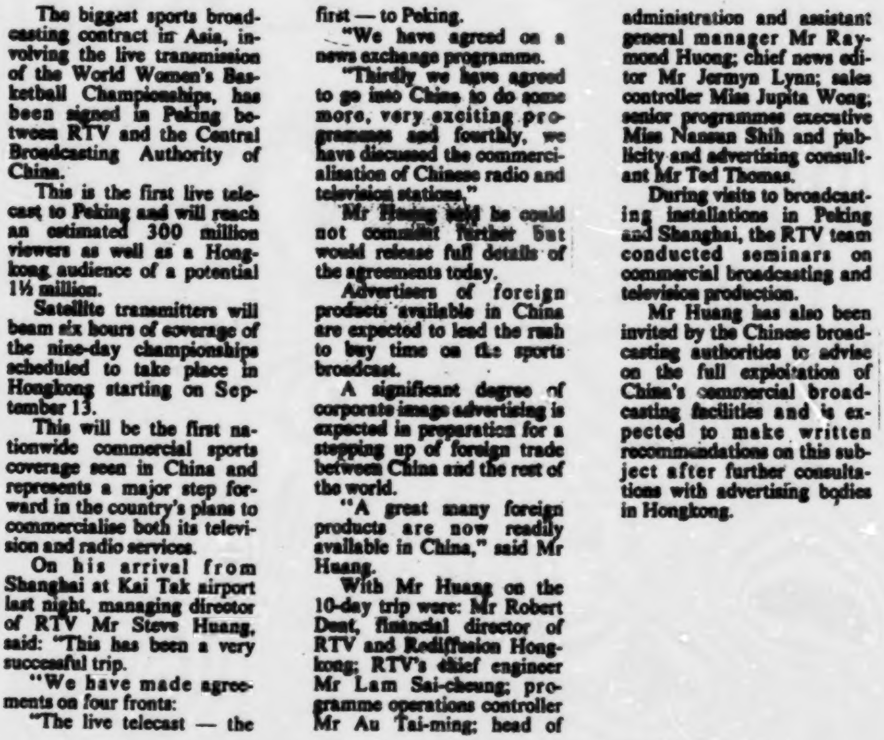
CSO: 5500

HONG KONG RTV TO HELP MODERNIZE PRC TELEVISION

Sports Broadcast Pact

Hong Kong SOUTH CHINA MORNING POST in English 24 Jul 80 p 11

/Text/



The biggest sports broadcasting contract in Asia, involving the live transmission of the World Women's Basketball Championships, has been signed in Peking between RTV and the Central Broadcasting Authority of China.

This is the first live telecast to Peking and will reach an estimated 300 million viewers as well as a Hongkong audience of a potential 1½ million.

Satellite transmitters will beam six hours of coverage of the nine-day championships scheduled to take place in Hongkong starting on September 13.

This will be the first nationwide commercial sports coverage seen in China and represents a major step forward in the country's plans to commercialise both its television and radio services.

On his arrival from Shanghai at Kai Tak airport last night, managing director of RTV Mr Steve Huang, said: "This has been a very successful trip.

"We have made agreements on four fronts:

"The live telecast — the first — to Peking.

"We have agreed on a news exchange programme.

"Thirdly we have agreed to go into China to do some more, very exciting programmes and fourthly, we have discussed the commercialisation of Chinese radio and television stations."

Mr Huang said he could not comment further but would release full details of the agreements today.

Advertisers of foreign products available in China are expected to lead the rush to buy time on the sports broadcast.

A significant degree of corporate image advertising is expected in preparation for a stepping up of foreign trade between China and the rest of the world.

"A great many foreign products are now readily available in China," said Mr Huang.

With Mr Huang on the 10-day trip were: Mr Robert Dent, financial director of RTV and Rediffusion Hongkong; RTV's chief engineer Mr Lam Sai-cheung; programme operations controller Mr Au Tai-ming; head of administration and assistant general manager Mr Raymond Huong; chief news editor Mr Jermyn Lynn; sales controller Miss Jupita Wong; senior programmes executive Miss Nansan Shih and publicity and advertising consultant Mr Ted Thomas.

During visits to broadcasting installations in Peking and Shanghai, the RTV team conducted seminars on commercial broadcasting and television production.

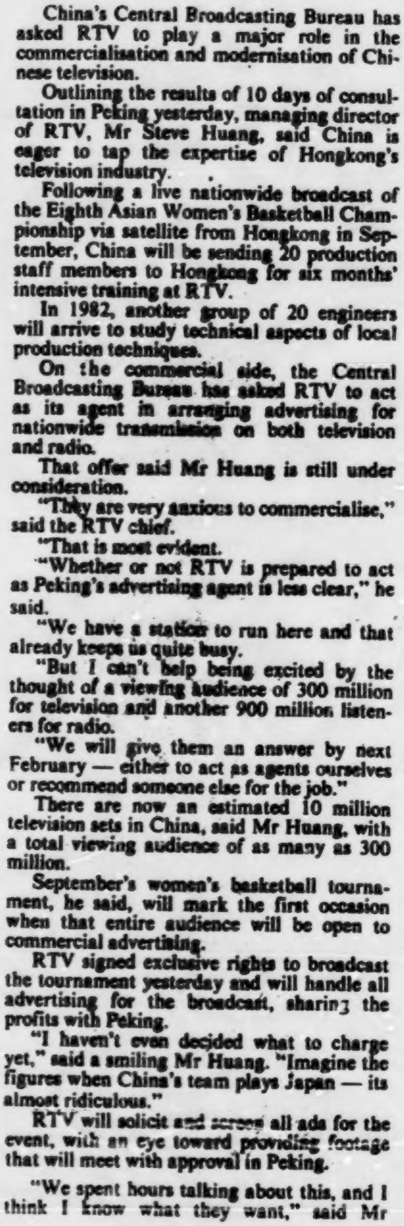
Mr Huang has also been invited by the Chinese broadcasting authorities to advise on the full exploitation of China's commercial broadcasting facilities and is expected to make written recommendations on this subject after further consultations with advertising bodies in Hongkong.

Training of PRC Staff

Hong Kong SOUTH CHINA MORNING POST in English 25 Jul 80 p 12

/Report by Tom Ashbrook/

/Text/



China's Central Broadcasting Bureau has asked RTV to play a major role in the commercialisation and modernisation of Chinese television.

Outlining the results of 10 days of consultation in Peking yesterday, managing director of RTV, Mr Steve Huang, said China is eager to tap the expertise of Hongkong's television industry.

Following a live nationwide broadcast of the Eighth Asian Women's Basketball Championship via satellite from Hongkong in September, China will be sending 20 production staff members to Hongkong for six months' intensive training at RTV.

In 1982, another group of 20 engineers will arrive to study technical aspects of local production techniques.

On the commercial side, the Central Broadcasting Bureau has asked RTV to act as its agent in arranging advertising for nationwide transmission on both television and radio.

That offer said Mr Huang is still under consideration.

"They are very anxious to commercialise," said the RTV chief.

"That is most evident.

"Whether or not RTV is prepared to act as Peking's advertising agent is less clear," he said.

"We have a station to run here and that already keeps us quite busy.

"But I can't help being excited by the thought of a viewing audience of 300 million for television and another 900 million listeners for radio.

"We will give them an answer by next February — either to act as agents ourselves or recommend someone else for the job."

There are now an estimated 10 million television sets in China, said Mr Huang, with a total viewing audience of as many as 300 million.

September's women's basketball tournament, he said, will mark the first occasion when that entire audience will be open to commercial advertising.

RTV signed exclusive rights to broadcast the tournament yesterday and will handle all advertising for the broadcast, sharing the profits with Peking.

"I haven't even decided what to charge yet," said a smiling Mr Huang. "Imagine the figures when China's team plays Japan — its almost ridiculous."

RTV will solicit and screen all ads for the event, with an eye toward providing footage that will meet with approval in Peking.

"We spent hours talking about this, and I think I know what they want," said Mr

Huang.

"They are conservative. We'll have to avoid sexuality in the ads and concentrate on a sporty style.

"Eventually people may have to make special ads for China, but the cost is peanuts when you can reach 300 million people."

Looking at production, he said China is turning to Hongkong for a lesson in efficiency.

Peking's entire programme production amounts to only 90 minutes per week compared to 42 hours at RTV.

Chinese television transmits only 3½ hours each day compared with 17 in Hongkong.

Hongkong has in the past sent many staff abroad for training, he said, and China's move to send staff here is a normal procedure in the television world.

"They have all the equipment they need," he said.

"What they need now is efficiency."

RTV will subsidise the Chinese staff training in Hongkong, he said.

Agreement was also reached in Peking on the broadcasting of Chinese news clips on RTV.

RTV has monitored China's satellite transmitted news service for some time, said Mr Huang.

But the new agreement allows RTV to now broadcast the transmissions for a "nominal fee."

"That should give us China news 24 hours before anybody else," said Mr Huang.

Further programme exchanges are unlikely, he said.

"In this respect we understand each other.

"Hongkong is a very different society from China.

"We cannot really use their programmes except for news, and they cannot use ours.

"It would be a bit far-fetched."

But co-operation can proceed well regardless of those differences, he said.

"They want to produce a lot more programming. We can help.

"It's very easy for us to sit down and know each other's mind."

Mr Huang first visited Peking for "exploratory" meetings in 1978, he said.

Consultation has gone on since then, but his recent meeting with deputy bureau chief Mr Li Lien-ching and others marked "a starting point for new co-operation."

"It's only a beginning, but we are very excited."

TVB has also had discussions with the Broadcasting Bureau, he said, noting that he was not informed on the substance of those talks.

CSO: 5500

BRIEFS

JAPAN-CHINA COMMUNICATIONS COUNCIL--Tokyo Sep 12 KYODO--The Posts and Telecommunications Ministry Friday decided to set up a Japan-China Communications Technology Exchange and Liaison Council with the chief of the minister's secretariat as chairman. The decision was made for the purpose of facilitating the exchange of technology between Japan and China in the fields of postal services, telecommunications and broadcasting, in accordance with an agreement reached by Posts and Telecommunications Minister Ichiro Yamanouchi and Chinese officials during his recent visit to China. The new council will be made up of officials of such organizations as Nippon Telegraph and Telephone Public Corporation (NTT), Kokusai Denshin Denwa Co. and Japan Broadcasting Corporation (NHK). It will hold talks on the exchange of information concerning technological cooperation as well as on exchanges of personnel and business problems. [Text] [OW121241 Tokyo KYODO in English 1233 GMT 12 Sep 80]

BROADCASTING UNION AGREES ON EXCHANGES--Colombo, 1 Sep (XINHUA)--Exchange of television and radio programmes, satellite communication and distribution of radio frequencies and the training of personnel were some of the topics covered here at the 17th General Assembly of the Asia-Pacific Broadcasting Union which ends today. The two-week meeting also discussed ways of promoting cooperation with other regional broadcasting unions, associated meetings covered such topics as engineering and programming. The assembly was attended by 129 delegates representing 44 member organizations from 33 countries and regions, representatives from United Nations agencies and observers from other regional broadcasting unions were also at the meeting. China is one of the 12 general council member countries. The next General Assembly of the Asia-Pacific Broadcasting Union is to be held in Manila last next year. [Text] [OW011552 Beijing XINHUA in English 1530 GMT 1 Sep 80]

INDIA-MALAYSIA CABLE LINK--Work on the 2,200 km long-distance submarine cable link between India and Malaysia began on 20 July in Madras. As a beginning the (?shore end) cable was connected to terminal complex on the Marina beach. The ship carrying the cable will move slowly, uncoiling the cable into the sea. The vessel is expected to reach Penang in Malaysia in 18 days where the other end of the cable will be connected to the terminal building putting through telecommunication link between the two countries. With this link, India need not solely depend on the existing western route via Europe for transit to the United States. This 25-million-pound-sterling project will become operational in November. [Delhi Domestic Service in English 0830 GMT 20 Jul 80 BK]

MADURAI-COLOMBO MICROWAVE LINK--Madras, July 9 (PTI)--The Rs 3-crore broadband microwave telecommunications system connecting Madurai with Colombo is likely to be ready before December. The system would provide 960 high-grade circuits to help better communication facilities between India and Sri Lanka, it was stated at the fifth Indo-Sri Lanka telecommunications maintenance conference held here yesterday. The Indian Telephone Industries, Bangalore, is manufacturing the equipment for the project. A communique issued after the deliberations at the conference said the operational, maintenance and tariff aspects of the system were discussed. Also, steps to improve the existing telecom links were decided upon. It was also proposed to revise and rationalise the tariff agreement between India and Sri Lanka at a separate meeting later. [Text] [Bombay THE TIMES OF INDIA in English 10 Jul 80 p 17]

CSO: 5500

EXPERTS SAY PLANNED SATELLITE LITTLE HELP TO OUTBACK

Melbourne THE AGE in English 18 Jul 80 p 3

[Article by Stephen Mills: "Satellite 'Not Best' for Outback Phones"]

[Text]

CANBERRA. — Methods already available could provide telephones to remote areas more cheaply than the Government's planned domestic satellite, Telecom has been told.

This is one conclusion of a survey carried out for Telecom by a group of Sydney consultants.

The report, by the Implementation and Management Group, said present cost estimates favored the use of a digital radio concentrator (DRC) system.

The findings conflict with the Government's belief that a satellite is the best way to meet communication needs in the Northern Territory.

The Post an Telecommunications Minister, Mr Staley, said yesterday that Government plans included both a satellite and earthbound technology to give all Australians access to an automatic telephone service.

Telecom had always intended finding which places would be best served by satellite, and which places needed other services, Mr Staley said.

But the consultants' report favored DRC for all places.

The report also urged higher priority for providing telephone services to remote areas of the Northern Territory.

It said that residents in remote areas felt a greater need for telephones than for television, radio, telex or School of the Air.

It found that 20,000 people in remote parts of the Northern Territory did not have reasonable access to modern telecommunication systems.

The DRC system was an "attractive solution" for providing telephones while a satellite would be "feasible" — but a delay in the satellite could be a disadvantage, the survey noted.

The satellite would be suitable for radio and television services while the DRC system would provide only a single radio programme.

The survey urged that a reassessment of costs should begin as soon as more information was available.

CSO: 5500

TELECOM TO AUTOMATE SERVICES WITHIN TEN YEARS

Brisbane THE COURIER-MAIL in English 31 Jul 80 p 10

[Text]

CANBERRA. — A fully automatic communications network for the whole of Australia, including remote rural areas, could be foreseen within 10 years, Telecom managing director, Mr John Curtis, said yesterday.

The great mineral discoveries in remote areas would need reliable modern communications, not only in telephone but also in data communications, he said.

Mr Curtis' remarks, contained in a book released by the Information Technology Council, said the most imminent introduction would be the digital data network to begin next year.

Telecom in 1982 expected to provide a public switched data network which would mean a minimum of transmission delay and increased flexibility in circuit utilisation.

This service would accommodate within the next decade such innovations as electronic mail, corporate data networks and electronic funds transfer.

Mr Curtis predicted also a growth in the use of facsimile machines to transmit photographs, diagrams and handwriting.

Developments in this area would reduce transmission times and provide a store and forward capability so that important documents could be transmitted immediately and routine information during off-peak times.

Developments also were underway to enable facsimile machines to be linked directly to computers and copiers.

Facsimile machines costing less than $500 were envisaged.

Mr Curtis said one of the next stages being developed in word processors was to give them a communicating ability over telecommunications lines.

Benefits to businesses would assist their viability in increasingly competitive markets.

Mr Curtis said the effect on society of the new technologies would mean many people would work in their homes or a nearby small office supported by the communications facilities.

Students could learn at home, using computer-assisted terminal equipment, and shopping could be ordered or funds transferred to banks from within the home.

Victorian Labor MP Mr Barry Jones said in the book that in the last three years, the Federal Parliament had devoted only one 50-minute debate to the social implications of technology.

"It is common ground to accept that technological changes are inevitable and incapable of modification," he said.

"To suggest that the political process may have some relevance in determining priorities, making choices and evolving appropriate social responses, is to invite derision.

"The subject of technology bores and embarrasses most members," he said.

The ACTU president, Mr Hawke, said unemployment benefits could lose their stigma when Australia as a nation realised that there was not enough work for everybody.

The benefits might cease to be regarded as temporary relief and acquire more the character of superannuation or the age pension, he said.

Mr Hawke said the introduction of new equipment and processes had led to a fall in the number of jobs available.

CSO: 5500

STEP FORWARD IN TELECOMMUNICATIONS

Rangoon THE WORKING PEOPLE'S DAILY in English 3 Sep 80 p 5

[Editorial: "A Step Forward"]

[Text] BURMA has made a major step forward in the field of telecommunications with the inauguration of the Subscriber Trunk Dialling System linking nine major towns in the country.

Under the new system, subscribers in each of the nine major towns—Rangoon, Sittwe, Bassein, Pegu, Prome, Magwe, Moulmein, Meiktila and Mandalay—will be able to make trunk calls by directly dialling the number in other towns without the intervening help of operators at both ends as in the past.

Such a system will thus save time and facilitate long-distance calls. This is a welcome development as it would mean that the trunk calls, which frequently developed into shouting matches as the persons at the two ends strain both their vocal cords and their ears to overcome the intervening distance in the past will now be made more convenient with the establishment of microwave links as the quality of telephone service has greatly improved and there will no longer be disturbances whether it be in summer, winter or the rainy season.

Such improvements are in the interests of the nation and the people. For, as Deputy Minister for Post and Telecommunications U Saw Hla Pru said in inaugurating the Subscriber Trunk Dialling System the other day, communications is like the very nerve centre linking the various levels of Organs of Power and services organizations in various parts of the country. Since communications play a vital role in communicating policies, decisions and directives to subordinate organizations responsible for their implementation, "a high standard of communications is a prerequisite for the speedy development of the country."

The new system, as the Deputy Minister noted, will mark the opening of a new chapter in Burma's telecommunications service by increasing the number of calls that can be made simultaneously and thereby bring various parts of the country—and the world in future—in closer contact with each other.

The first step has been made in linking up nine major towns. Different kinds of local and long-distance communications facilities must be added for bringing about a well-integrated system of communications throughout the whole country to contribute towards a more speedy national development.

The Post and Telecommunications Corporation has improved and updated the telecommunications system to make it the modern convenience it really ought to be. Now that the new system has been established it is up to all to see its proper maintenance and upkeep. We expect that the working people will contribute their share towards this end by rendering their full co-operation to the Corporation for making the best possible use and care of the new system.

CSO: 5500

BRIEFS

AUTOMATIC TELEPHONE SERVICE--An automatic transit telephone exchange service was simultaneously inaugurated in nine cities of Burma on 1 September. The cities are Akyab, Arakan State; Bassein, Irrawaddy Division; Pegu and Prome, Pegu Division; Magwe, Magwe Division; Moulmein, Mon State; Meiktila and Mandalay, Mandalay Division, and Rangoon. Speaking at the service inauguration ceremony in Rangoon on 1 September, Naval Commander Lin Thein Maung, managing director of communications corporation, said there were 31,391 telephone lines in Burma of which 25,360 lines can be used to operate through the new automatic transit telephone exchange service to dial long distance. [BK050635 Rangoon Domestic Service in Burmese 1330 GMT 1 Sep 80]

CSO: 5500

INFORMATION MINISTRY ISSUES ANNUAL REPORT

Bombay THE TIMES OF INDIA in English 10 Jul 80 p 17

[Text] New Delhi, July 9 (PTI)

Various schemes for the expansion of the TV network in the country are under consideration of the government.

According to the annual report of the ministry of information and broadcasting, the scope and possibilities of introduction of colour television are also being explored, particularly because the black and white technology is fast becoming obsolete.

The report says that the government proposes to give the fullest consideration to the utilisation of the Indian National Satellite (INSAT) for providing a reliable satellite-based TV communication of post and telegraph microwave communication system.

Outlining the TV projects to be executed during 1980-81, the report says that the TV centre at Jullundur with a ten-Kw transmitter will be completed and the TV transmitter at Lucknow will be shifted to a permanent site with the consequent improvement in the service area.

Orders for studio equipment for Ahmedabad, Bangalore and Trivandrum will be placed and the sites for the TV centre in Ahmedabad and relay centres in Jammu, Mushirabad, Ajmer, Cuttack and Varanasi will be acquired.

Air Projects

Similarly, orders for equipment for programme production centres at Raipur, Muzaffarpur and Gulbarga will also be placed and building plans finalised during the year.

AIR projects to be commissioned shortly include FM (frequency modulation) service in Calcutta and Bombay, a radio station at Suratgarh, permanent studios at Agartala, Allahabad, Ambikapur, Jaipur, Rajkot and Vijayawada, a 2/10-Kw. medium-wave transmitter at Aizawl and a 2/100-Kw. medium-wave transmitter at Srinagar.

The report reiterates the government's commitment to the freedom of the press and adds that small and medium newspapers, including regional languages, should be given all possible encouragement.

Further, the government considers that the diffusion of ownership of newspapers and their delinking from the big industries were important issues requiring a study in depth. These subjects are, therefore, likely to be included in the revised terms of reference of the press commission.

Referring to the news agencies pool of non-aligned countries, the report says that India continued to play a leading role in its working. In its capacity as chairman of the co-ordination committee from July, 1976, to November, 1979, India worked persistently to make the pool operational in character and also to increase the volume and improve the quality of the pool services.

According to the report, the government released in 1979-80 grants in aid of Rs 36.19 lakhs to the four news agencies on account of the salary differential of their employees.

On the film industry, the report justified the government's decision to merge the Film Finance Corporation and the Indian Motion Pictures Export Corporation with a revitalised National Film Development Corporation.

Merger Justified

This decision is aimed at ushering in "a new era of cinema and development of good and wholesome cinema with the involvement and cooperation of the film industry." It was also decided to wind up the working group on autonomy for the films division as in the government's view the division already enjoys adequate functional autonomy, particularly in creative and production matters.

The report refers to a protocol signed with Syria for cooperation in the field of broadcasting and information during the year and says that similar protocol under cultural exchange agreements were under negotiation at present with France, Yugoslavia and Poland.

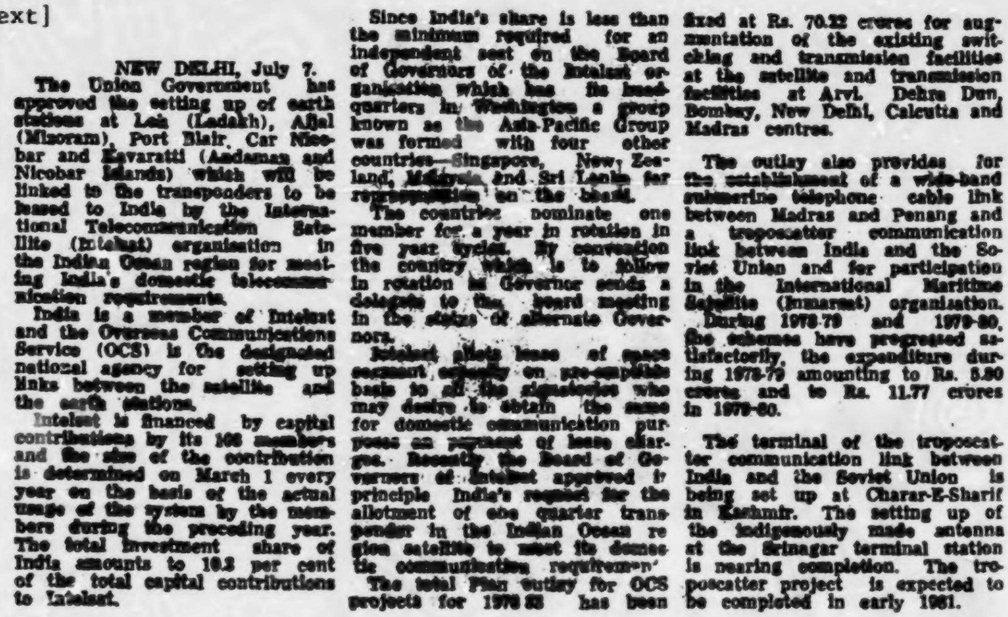
The protocol signed with Syria under the aegis of the existing cultural agreement envisages the exchange of radio and TV programmes and films and media personnel.

CSO: 5500

FIVE EARTH STATIONS APPROVED FOR SATELLITE LINK

Madras THE HINDU in English 8 Jul 80 p 13

[Text]



NEW DELHI, July 7.

The Union Government has approved the setting up of earth stations at Leh (Ladakh), Aijal (Mizoram), Port Blair, Car Nicobar and Kavaratti (Andaman and Nicobar Islands) which will be linked to the transponders to be leased to India by the International Telecommunication Satellite (Intelsat) organisation in the Indian Ocean region for meeting India's domestic telecommunication requirements.

India is a member of Intelsat and the Overseas Communications Service (OCS) is the designated national agency for setting up links between the satellite and the earth stations.

Intelsat is financed by capital contributions by its 106 members and the size of the contribution is determined on March 1 every year on the basis of the actual usage of the system by the members during the preceding year. The total investment share of India amounts to 10.2 per cent of the total capital contributions to Intelsat.

Since India's share is less than the minimum required for an independent seat on the Board of Governors of the Intelsat organisation which has its headquarters in Washington a group known as the Asia-Pacific Group was formed with four other countries—Singapore, New Zealand, Malaysia and Sri Lanka for representation on the board.

The countries nominate one member for a year in rotation in five year cycles. By convention the country which is to follow in rotation as Governor sends a delegate to the board meeting in the status of alternate Governors.

Intelsat allots lease of space segment capacity on pre-emptible basis to all the signatories who may desire to obtain the same for domestic communication purposes on payment of lease charges. Recently the Board of Governors of Intelsat approved in principle India's request for the allotment of one quarter transponder in the Indian Ocean region satellite to meet its domestic communication requirements.

The total Plan outlay for OCS projects for 1978-83 has been fixed at Rs. 70.32 crores for augmentation of the existing switching and transmission facilities at the satellite and transmission facilities at Arvi, Dehra Dun, Bombay, New Delhi, Calcutta and Madras centres.

The outlay also provides for the establishment of a wide-band submarine telephone cable link between Madras and Penang and a troposcatter communication link between India and the Soviet Union and for participation in the International Maritime Satellite (Inmarsat) organisation.

During 1978-79 and 1979-80, the schemes have progressed satisfactorily, the expenditure during 1978-79 amounting to Rs. 5.80 crores and to Rs. 11.77 crores in 1979-80.

The terminal of the troposcatter communication link between India and the Soviet Union is being set up at Charar-E-Sharif in Kashmir. The setting up of the indigenously made antenna at the Srinagar terminal station is nearing completion. The troposcatter project is expected to be completed in early 1981.

CSO: 5500

BRIEFS

RADIO TRANSMITTER STRENGTH BOOSTED--Minister of State for Information and Broadcast Mrs Ram Dulari Sinha has said that a 200-kilowatt transmitter will replace the 20 kilowatt transmitter at Siliguiri in North Bengal. This will make the all India Radio Program accessible even to the border and remote areas. She was speaking at a news conference in Calcutta today. [Text] [BK131621 Delhi Domestic Service in English 1530 GMT 13 Sep 80]

TV NETWORK--The TV network will cover an area of over 485,000 square kilometers during the current plan period. New TV centers will be opened at Ahmedabad, Bangalore and Trivandrum. This was disclosed by Minister of State for Information and Broadcasting Mrs Ram Dulari Sinha while addressing the TV program producers guild in Calcutta on 12 September. [Text] [BK131527 Delhi Domestic Service in English 1230 GMT 12 Sep 80]

CSO: 5500

BRIEFS

BALUCHISTAN COMMUNICATIONS SYSTEM--A comprehensive program has begun to improve communications in the Baluchistan area after consultations with elected representatives from the area. This was stated by the director general of the Development Institute for Northern Areas in Skardu while inaugurating the Khurbi bridge. He said the government is giving full attention to development of the area, especially in the communications sector. He said work on a new 10-kw-capacity broadcasting house in Skardu will be completed by the end of this month. [Text] [GF151747 Karachi Domestic Service in Urdu 1500 GMT 15 Sep 80]

CSO: 5500

GUANGDONG HOLDS BROADCASTING PLANNING CONFERENCE

HK040454 Guangzhou Guangdong Provincial Service in Mandarin 1120 GMT 3 Sep 80

[Text] The Guangdong provincial broadcasting planning conference was held in Guangzhou from 28 August to 3 September. In accordance with the demands of the national broadcasting plan, the conference discussed a tentative long-term plan for provincial broadcasting and television and drew up a plan for the coming 5 years. This was the first provincial broadcasting conference since the smashing of the gang of four. Attending the conference were more than 160 persons including leaders of broadcasting departments of Guangzhou Municipality, Hainan Administrative Region and all prefectures, and responsible comrades of broadcasting stations of municipalities and counties. Leading comrades of the provincial CCP Committee Propaganda Department spoke, and representatives from the provincial People's Government departments concerned were invited to attend the conference.

The conference conveyed and studied the spirit of the national broadcasting planning conference and the provincial propaganda work conference, reviewed the complicated course of broadcasting and television development in the province in the past and fully affirmed the achievements scored. The conference held: Since the founding of the PRC 30 years ago, the province's broadcasting and television has made tremendous progress and the achievements are significant. At present, a relatively complete broadcasting system has been set up throughout the province, including wired broadcast, medium wave, television and FM. A Guangdong radio and television network centering on Guangdong provincial people's broadcasting station and Guangdong television station is gradually forming. These achievements have provided firm foundations for developments in the 1980's. The accusation made during the Great Cultural Revolution that broadcasting work in the 17 years after the founding of the PRC was imbued with a sinister revisionist line was utterly groundless slander, and should be thoroughly repudiated.

The conference discussed a long-term tentative plan for the development of Guangdong broadcasting and television up to the end of this century and measures to accomplish the plan, on the basis of summing up experience, defining the guiding ideology and target of endeavor in broadcasting in the new period, and in accordance with the demands of the national broadcasting plan and the actual situation in Guangdong, they emphatically studied planning for the coming 5 years, and the measures to accomplish the plan. The plan demanded giving first priority to speeding up television development and giving prominence to television program production and expanding the area of coverage; establishing medium wave and FM broadcasting networks, and expanding the coverage of the provincial station; straightening out, improving and continuing to develop the rural wired broadcasting network, and achieving smooth circuits and good loudspeakers and reception; and strengthening research work in science and technology of broadcasting and television, and so on.

Representatives attending the conference emphatically pointed out: the wired broadcasts widespread throughout the province form an important component part of the nation's broadcasting. Its unique role cannot be replaced by wireless broadcast or television. We must persist in the policy of walking on two legs and simultaneously develop wired and wireless broadcasting.

The representatives looked forward to the bright future of broadcasting and were encouraged. Their confidence and feelings of honor in doing a good job of broadcasting were strengthened. They said: Since the smashing of the gang of four, a new lively scene of flourishing development has emerged in broadcasting and television, and we are very much encouraged. At present, the province's tentative long-term plan and the 5-year plan are both defined and practical, and we are very clear about our future and orientation. We are very encouraged and full of confidence. All of them said: We must be of one heart and one mind, boost our spirits, overcome difficulties, fulfill all the tasks put forward in the plan and make even greater contributions to developing broadcasting and television in our province.

CSO: 5500

BRIEFS

BROADCASTING PUBLISHING HOUSE ESTABLISHED--The Central Broadcasting Administration recently established the Broadcasting Publishing House in Beijing. The Broadcasting Publishing House is a comprehensive publishing house. Its main task is to publish radio and television scripts, related professional and technical books and periodicals and other publications in order to increase propaganda results of radio and television broadcasts and promote the development of broadcasting work and the four modernizations. The Broadcasting Publishing House plans to publish two books at the end of this year. They are: 1. Volume 4 of "Reading and Appreciating Classic Literature." The first three volumes have been published by the Beijing Publishing House. 2. "Words From the Heart--Selected Articles of the Youth Program of the Central People's Broadcasting Station in Spring 1980." [Text] [OW101235 Beijing Domestic Service in Mandarin 1200 GMT 8 Sep 80]

CSO: 5500

BRIEFS

SATELLITE PROJECT--Taipai, 6 Aug--A task force will set up for the government's five-year aerospace development project, a government source said. The government has targeted to launch a telecommunications satellite within five years. The task force is to be composed on representations of government scientific and research organizations and will report to the Executive Yuan. Main task of the group is to map out a five-year development program for an aerospace industry, provide training for local engineers in related fields, and enlist the aid of overseas specialists in the field. Tentative plans call for development of rockets and satellites for civilian purpose. Specialists noted that based on Taiwan's present know-how, priorities for development are rocket fuel systems, launching systems, and special high-test alloys. [Text] [Taipei CNA in English 0230 GMT 6 Aug 80 OW]

CSO: 5500

NEW AUTOMATIC TELEPHONE EXCHANGES OPEN IN NORTH

Bangkok SIAM RAT in Thai 10 Jun 80 p 3

[Article: "Automatic Long-Distance Telephone Lines Have Been Opened Starting With 29 Lines to the North"]

[Automatic long-distance telephone service to the north has been opened. Stores with pay telephones have quickly made preparations to keep the customers from taking this opportunity to call long distance at a low cost.

Yesterday morning, Admiral Amorn Sirigaya, the minister of communications, served as the leader of the ceremony to open automatic long-distance telephone service (STB) between the Bangkok telephone area and the 29 telephone exchanges in the northern provinces. The ceremony was held at the conference hall of the Minister of Communications. The first long-distance call was made to Mr Samruai Phungprasit, the governor of Lampang Province.

Concerning this automatic long-distance telephone service, a caller can call long-distance directly without having to go through an operator as before. The caller first dials the long-distance area code of that telephone exchange and then dials the number desired. The area codes of the various telephone exchanges are as follows:

Area code 053 is the co for the Chiengmai, Lamphun, Mae Hong Son, Saraphi and Pasang exchanges.

Area code 054 is the code for the Lampang, Chiengrai, Nan, Phayao, Phrae and Denchai exchanges.

Area code 055 is the area code for the Phitsanulok, Sukhothai, Tak, Uttharadit, Kamphaengphet, Mae Sot, Sawannakhalok, Laplae and Wongthong exchanges.

Area code 056 is the area code for the Nakhon Sawan, Phetchabun, Uthai Thani, Phichit, Chainat, Chumsaeng, Takli, Taphanhin and Bangmunnak exchanges.

The long-distance area code for calling Bangkok is 02.

Major General Sutaphan Thawiwong, the director of the Telephone Organization of Thailand, stated that the telephone exchanges in the northeast will open automatic long-distance service to Bangkok around 1 August. As for the south, only a single exchange will be opened at first for calling Bangkok. This exchange will open on 25 July. The eastern region will have to wait but efforts are being made to start service by the end of this year.

Furthermore, after automatic long-distance telephone service was implemented, the newspaper SIAM RAT went to observe things at various stores that have pay telephones that are not public telephones of the Telephone Organization. It appears that some stores have had to quickly change the telephones and telephone dials for the customers because of the fear that the customers will dial long distance.

11943
CSO: 5500

DIAL-DIRECT LONG DISTANCE TELEPHONE LINE TO NORTH TO OPEN

Bangkok SIAM RAT in Thai 20 Jun 80 pp 1, 12

[Article: "Long Distance Telephone Service Opened; Direct Dialing Between Bangkok and the North To Open For the First Time On 9 July"]

[Text] The Telephone Organization is preparing to open direct dial telephone service between Bangkok and the northern provinces for the first time in the history of long-distance calling here. This will be implemented at 0100 hours on 9 July.

Major General Sutaphan Thawiwong, the director of the Telephone Organization, stated that, concerning direct dialing between Bangkok and the north, at this time it will be possible to call 29 telephone exchanges in other provinces. There will be opening ceremonies at 1000 hours that day. Admiral Amorn Sirigaya, the minister of communications, will make the first call to government officials in the provinces that have these telephone lines.

Telephone users calling Chinegmai, Lamphun, Mae Hong Son, Saraphi and Pasang must dial area code 053 first and then the number they want to call. The area code for Lampang, Chiengrai, Nan, Phayao, Phrae and Denchai is 054. That for Phitsanulok, Sukhothai, Tak, Uttaradit, Kamphaengphet, Mae Sot, Sawannakhalok and Laplae is 055. That for Nakhon Sawan, Phetchabun, Uthai Thani, Phichit, Chainat, Chumsaeng, Takhli, Taphanhin and Bangmunnak is 056.

As for the people calling from all of the above exchanges in these provinces, if they want to call directly to someone in Bangkok, they must dial area code 02 first and then the number they want.

The service charge will be calculated based on the actual number of minutes the call lasted. If a fraction of a minute is involved, it will be rounded up to the next full minute. In cases in which the caller wants a telephone operator to place the long-distance call for him instead of dialing direct, the Telephone Organization will charge a service charge of 10 baht per call during the day and 20 baht during the night, with the exception that there is no service charge if the person calls from the telephone exchange.

11943
CSO: 5500

BRIEFS

DOMESTIC SATELLITE COMMUNICATION--The cabinet has approved the domestic communication project using satellites belonging to the mass communication authority of Thailand. The project calls for the establishment of the master station in Si Racha, Chon Buri, and 14 slave stations for receiving television signal and 2 slave stations for receiving and transmitting voice signal. Channels will be leased from (Intelsat IVA) satellites. The project will take 19 months to complete and its investment will be 98 million baht, coming from the incomes of the Mass Communication Authority of Thailand. [BK301147 Bangkok Domestic Service in Thai 1300 GMT 26 Aug 80 BK]

RADIO STATION IN PHATTHALUNG--Today, Somsak Chuto, minister attached to the prime minister's office, opened the radio station in Phatthalung under control of Radio Thailand. The station cost 3.4 million baht to build and is located in the central district of Phatthalung. The station has 10 kilowatts of transmission power and will be able to reach areas up to 70 km away. [BK301147 Bangkok Domestic Service in Thai 1300 GMT 24 Aug 80]

CSO: 5500

MINISTER DWELLS ON STATE OF COMMUNICATIONS SYSTEM

Sofia OTECHESTVEN FRONT in Bulgarian 6 Aug 80 pp 1-2

[Article by Pando Vanchev, minister of communications: "On a Higher Modern Level"]

[Text] Four years following the 11th Party Congress, drawing a balance of our achievements, we can say that the directives of the BCP in this direction and the Seventh Five-Year Plan are being successfully implemented by the communications sector. At the congress Comrade Todor Zhivkov stated that, "In order to insure the high quality of communications in the national economy and the rationalization of management processes, we must enhance the technical level and insure the overall improvement of the work of the communications-information system.

"Transportation and communications are the arteries of the economics of the social organism."

The high requirements formulated by the party and the government for our sector and the efforts they made for its rapid and effective growth created possibilities for its accelerated development through automation and electronization.

The new information transmission method makes it possible to create a unified integrated communications network which, along with conventional services, will offer a number of new possibilities for communications services. This, however, is a problem for the future. Currently we are providing over five million postal services daily. The communications system includes all settlements in the country.

By the end of 1980 telephone density will reach 13.06 per 100 population while the level of automation of settlement telephone communications will reach 93 percent. This will mean that the number of installed sets of direct dialing exchanges will exceed 1,035,000; the automation of inter-urban telephone communications will reach 63 percent and the Telex density (Telex sets per 10,000 population) will reach six percent.

Compared with the Sixth Five-Year Plan telephone communications have risen 77 percent while the level of automation has almost doubled.

However, we clearly realize that the necessary change has not been accomplished in the quality of communications services. There remain disproportions in the development of communications subsectors. We have not fully satisfied the needs of the national economy and the population for settlement and interurban telephone communications. Weaknesses exist in the development of routing systems. The material and technical base of post offices is not on the necessary contemporary level. The level of mechanization and automation in the handling and transportation of the mail is low. Our task currently and in the future is to surmount all these weaknesses.

The basic directions of the 11th BCP Congress on the socioeconomic development of Bulgaria in the Seventh Five-Year Plan stated the following: "The development of the technical base of television and radio must be continued in order to insure the fuller and better quality coverage of the country with radio and television programs."

Bulgaria must join the space communications system of the socialist countries. A ground station linking it with the Intersputnik system must be built.

How are we pursuing these directions?

Before the end of the year we will cover 95 percent of the country's territory with the first national radio program; 87 percent, on a medium wavelength, daytime, with the second; and 81 percent with the three UHW-FM programs; over 88 percent of the country will be able to receive the first television channel and 71 percent the second.

The Shipka ground space station was commissioned. Through it we are receiving television programs from the Olympics in the Soviet Union.

Telekomplekt, our engineering construction organization, was the 1979 national champion in the socialist competition among construction organizations throughout the country. Its designers, specialists, and performers are successfully implementing their programs for construction projects abroad.

Forty-six collectives with over 1,000 participants and nearly 300 individual leading workers have entered the Eighth Five-Year Plan. This fact proves that modest tireless working people in communications stand behind the figures of millions of postal services, tens of thousands of new telephone sets, tens of thousands of kilometers of cables and other portable equipment, and the high percentage of radio and television coverage of the homeland. With their minds and their hearts they are carrying out the party's order, dedicatedly serving society, and implementing the ministry's economic policy. We are relying on them for the future development of communications as well. Electronics will penetrate ever more extensively the national communications system. Many of our problems will be resolved with the completion of the International Direct Dialing Telegraph and Telephone Exchange, which is being built at a fast pace. In the next few years the comprehensive Sofiya Radio and Television Center will be built on Mount Vitosha. This will insure ideal radio and television reception and visibility to the population of Sofia and Pernik okrugs and will improve broadcasting throughout the system. In the next five-year plan and through 1990 Bulgaria will become a major telecommunications center in the Balkans.

We are approaching the implementation of these major tasks from the position of the new economic approach and the application of the new economic mechanism, and through the ever greater intensification of integration with the Soviet Union and the other socialist countries. We shall continue to build a modern material and technical base for communications. Substantial changes will occur in information transmission over medium and long distances. In the future the use of space communications will be increased 70-80 percent.

In order to develop today the communications facilities which will be needed by the country tomorrow modern technical equipment, consistent with world achievements in the areas of electronics and robotics, are needed. In this sense we are relying on our industrial sectors with which we maintain direct production relations. Innovations of technical progress must be transferred from the institutes to the centers so that Bulgaria may assume its position among countries with high level communications services.

5003
CSO: 5500

BRIEFS

NEW FIBER-OPTICS TELEPHONE LINK--Fiber-optics communications in Lodz. Subsequent to Lublin where a 2.5-kilometer section of fiber-optics telephone link is operating, a similar 6-kilometer link will be put into operation in 1981 in the new Lodz community of Widzew-Wschod. [Text] [Warsaw ZYCIE GOSPODARCZY in Polish No 33, 17 Aug 80 p 2]

CSO: 5500

BRIEFS

RADIO STATION AUTHORIZED--Radio Cruceiro of Barra do Bugres has been licensed to operate a radio station on mediumwave for regional purposes in the city of Barra do Bugres, Mato Grosso do Sul State. [Brasilia Domestic Service in Portuguese 2200 GMT 18 Aug 80 PY]

CSO: 5500

NEW BROADCASTING SYSTEM INAUGURATED

FL292020 Bridgetown ADVOCATE-NEWS in English 26 Aug 80 p 3

[Text] Georgetown, Guyana, Monday (CANA)--A four-page supplement on the Guyana Broadcasting Corporation (GBC) has been published here in an obvious effort to bolster the image of the state-owned radio enterprise.

The supplement in THE CHRONICLE newspaper details the inauguration of the one-station-two-channel broadcasting system this year, replacing Radio Demerara (now Channel 1) and the Guyana Broadcasting Service (now Channel 2).

Channel 1 is GBC's "general service" medium-wave station, placing special emphasis on national, Caribbean and international developments.

Channel 2 serves as the corporation's "regional short-wave" radio, "bringing on the air the voice of the rural dwellers and reflecting more fully the fact that there is a lot of on-going development in the region," according to the supplement.

The new system, restructured to ensure the smooth introduction of television early next year, is also expected to improve radio service to the entire nation, GBC executive chairman Lamber Philadelphia says.

The new system is designed "to produce" through the broadcasting media, programme material which recognises our cultural diversity and advances our national, social, economic and political objectives through information, education and entertainment programming for both the rural and urban areas of Guyana THE CHRONICLE reports.

The two-channel service is the latest development in radio here, when the history of broadcasting goes back nearly 60 years with the establishment in 1926 of the British empire's first radio station.

CSO: 5500

BRIEFS

NEW BROADCASTING STATION--Rabat, 9 Sep (JAMAHIRIYAH NEWS AGENCY)--The International Mediterranean Sea Broadcasting station started yesterday in Tanja its temporary transmission. The broadcasting station which will be established on Tador port in the Moroccan coast will transmit its programmes in Arabic and French. [Text] [Tripoli JANA in English 0852 GMT 9 Sep 80 LD]

CSO: 5500

KENYAN MINISTER SAYS PANAFTEL NETWORK SOON TO BECOME REALITY

Nairobi DAILY NATION in English 4 Sep 80 p 3

[Text]

AFRICA's underdeveloped telecommunications network holding up progress.

Transport and Communications Minister Henry Kosgey said this in Nairobi yesterday when officially opening the Pan-African Telecommunications Union (Patu) seminar on maintenance, training and inter-state co-operation.

The conference is being held at the Kenyatta Conference Centre.

He said that much traffic between African countries had to go to transit centres outside Africa, thus giving rise not only to service difficulties but also to an outflow of much-needed foreign exchange.

Effective and easy communication among African states was limited, he said.

These problems, he added, had been known to the OAU for many years, and it was in an effort to overcome them that Patu had been established.

Kenya wished the Patu secretariat success in its efforts to resolve telecommunications problems in Africa.

It was encouraging, he said, that the Panaftel network, on which studies began in the late 1960s, was soon to become a reality, with some links in the first phase already operational and others scheduled for completion next year.

He said the establishment of Patu in 1977 was aimed at ensuring effective management of the Panaftel network.

The Minister stressed the need for training of personnel in telecommunications to man the network in Africa.

CSO: 5500

INFORMATION MINISTER ON 'AFRICOM 80' MEETING

Cotonou EHUZU in French 6 Aug 80 pp 3-4

[Report on 4 August press conference of Minister of Information and Propaganda Martin Dohou Azonhiho]

[Text] Home from Yaounde where he participated in the Intergovernmental Conference on Communications Policies in Africa, "Africom 80," our minister of information and propaganda, Comrade Martin Dohou Azonhiho, met with the national press corps on Monday to report on the work of the Conference and tell of our country's contribution to the debate.

The following is the complete text of the interview.

[Question] After San Jose (Costa Rica) in 1976 for Latin America and the Caribbean and following Kuala Lumpur (Malaysia) in 1979 for Asia and the South Sea Islands, Yaounde-Africom 80 has just reiterated the determination of the Third World countries to assume responsibility for their communications. To what do you attribute this new awareness?

[Answer] I firmly believe that this awareness is simply the result of the aberrant and shameful imbalance that can now be observed between developed countries and developing nations in the field of information and communications.

Actually, while at all times and in all places the need to communicate has always been among the prime concerns of man, a new factor has come into play in the past several decades and totally changed the situation.

I am speaking of the technological explosion, with its accompanying discoveries that have the potential of every being to communicate as well as the ratio of forces between nations.

Consequently, one is no longer surprised to learn that the countries making up "the group of poorest nations" are those that are still the furthest below the norms recommended by UNESCO for communications media.

Another reason for concern is the fact that modern communications require high-level technical equipment whose installation, mastery and operation are still the privilege of favored nations.

Finally, the different studies and consultations undertaken on this subject have shown that the situation of communications in African nations is rather sad. Every analysis reveals that in most of our countries, a small elite, whether it be political, economic or intellectual, exercises excessive influence and control over the life of the masses and their orientations.

But given the fact that it essentially depends on the will of nations to correct this situation, Yaounde-Africom 80 brought together over 600 experts from the four corners of Africa to show the world that there is an obvious cause-and-effect relationship between the new international economic crisis and the new international order of communications and information.

[Question] In your speech at Yaounde, you mentioned our principle of "relying first of all on our own forces," a principle that does not mean isolation or any withdrawal, for, you said, "cooperation with complementation is the real wish of the People's Republic of Benin."

Can you be more specific about your thoughts?

[Answer] Indeed, if there is a field in which multilateral cooperation is essential, it is communications.

On this subject, the general director of UNESCO said, in the introduction to the final report of the international commission to study communications problems, that "no nation henceforth can live in isolation.... Every nation is now part of the daily reality of all others."

But for the People's Republic of Benin, this expanding interpretation and these multiple exchanges do not bring only advantages. That is why we believe that it is necessary to provide parameters for this trend of exchanges. To master this cooperation and derive beneficial use of it, we must: avoid imposing on the poorer countries the subproducts of Western culture and presenting to the public in the wealthier countries an extravagant and distorted image of the situation in developing countries; particularly emphasize the continuation of relations between blocs whose level of development is uneven and encourage developing countries to organize on the regional level to give them some autonomy; give priority to the field of training, particularly meeting the urgent needs of developing countries; on the level of programs, insist on exchanges having to do with the four fundamental sectors, which are national cultures, education, agriculture and health; encourage more effective conservation of national cultural traditions and by means of adequate structures, contribute to better mutual knowledge based on issues of common interest; and permit the study and development of unconventional forms of radio and television treatment adapted to a rural public and based on broad participation by the people. That is how, my comrades of the press, the People's Republic of Benin sees the cooperation that is indispensable in the field of communications.

[Question] What were the high points of the Conference? What is your view of the work and particularly of the final statement?

[Answer] In the fight to establish a new international order of information and communications, Yaounde was both an end and a beginning.

It was an end because this Conference was called at a time when we have a better knowledge of communications problems and the different implications on the lives of our people.

It was a beginning because in the Cameroonian capital, we had the possibility of examining all aspects of the problem and formulating indispensable recommendations for guiding our future action in the field of information and communications.

Out of the 50 recommendations proposed, 38 were finally retained, and these recommendations outline the struggle to which we gave new impetus at Yaounde, to wit, the struggle for the effective and total decolonization of our continent from all forms of subservience, exploitation and alienation.

For example, we took up the problem of radio stations outside of Africa, whose action constitutes a form of veritable, permanent, cultural aggression aimed at our people. These foreign radio stations set up right in Africa or simply having relay stations have an effect beyond the borders of the countries that grant them facilities, hindering the efforts made by African national radio stations. They sustain the survival of the colonial era and constitute weapons of cultural, economic and political interference.

The Conference asked the general director of UNESCO to make studies on the existence of these extra-African radio stations on the continent so as to convoke a special conference on the question.

Another recommendation that merits emphasis is the one relative to the International Program for the Development of Communications and Financing. The question was also taken up by the general director of UNESCO in the statement he made to you during his stop in Cotonou.

Actually, this is a debate which a certain number of countries, including the People's Republic of Benin, have been eager to carry further following a UNESCO conference held in Paris in the month of April.

Through this recommendation, the Conference tried to remind people that the establishment of the new world order of information and communications is aimed at reducing the gap between the different countries in the field of communications, particularly through increased financial aid and other assistance to developing countries through the transfer of suitable technologies and know-how in the area of communications.

This financial aid could not be considered as charity because as a result of colonization and its effects on our countries, the former colonial powers have historical obligations to us that we must oblige them to assume. That is why we have emphasized the need for the establishment of an international fund for the implementation of this program. The principle of the fund is for us a moral obligation which we must force on those who built their power today on the shameless looting of our material and human resources.

These are examples which I deemed useful to cite in order to illustrate the high political level of our debates, a political level well expressed by the Yaounde Declaration that was unanimously adopted. For us, the Declaration is a veritable information charter for Africa, because it emphasizes the urgent need to decolonize our communications structures, which still follow the old colonial lines.

The Yaounde Declaration is the commitment of all African nations to work collectively and with all their might to bring about indispensable changes so that every nation may inform and be informed freely, with respect for its dignity.

[Question] The common denominator of the African countries with respect to infrastructure in the field of communications seems to be underequipment. How was this situation perceived at Yaounde? Were solutions proposed?

[Answer] The situation you evoke has historic roots that were properly emphasized in the Yaounde Declaration, which states that in his quest for the knowledge and information to which he has the right, the African sees his march gravely hindered by the great difficulties and numerous obstacles he encounters in the field of communications, particularly due to the ill effects of colonial oppression and exploitation of which he was the victim.

In any case, everyone presented his situation and described the efforts made to set up infrastructures responding to the requirements of our time.

Here, emphasis was mainly placed on the need to coordinate actions in order to provide an adequate response to the hold of transnational companies over communications on our continent.

We have a wide-ranging debate on technology and the conditions for its acquisition by our countries. We agreed on the need to join our efforts in order to acquire the means to develop a suitable technology adapted to our own circumstances. It will be a question of doing our utmost to ensure an endogen production of equipment that would be used and maintained in an economical fashion, in countries whose resources would now allow them to acquire the latest technology or which would refuse to be dependent upon it because they would have to continue to import it at great expense.

11,464
CSO: 5500

M'BOW COMMENTS ON 'AFRICOM 80' MEETING REPORTED

Cotonou EHUZU in French 4 Aug 80 pp 1, 6

[Article by P. A. O.]

[Text] Amadou Mahtar M'Bow, general director of UNESCO, stopped off in Cotonou Friday on his way from Yaounde, where he participated in the UNESCO conference on communications policies in Africa.

On the same flight to Cotonou was the Benin delegation to the conference, headed by our minister of information and propaganda, comrade Martin Dohou Azonhiho.

Mahtar M'Bow was received shortly after his arrival by the first vice president of the Revolutionary National Assembly, comrade Vilon Guezo Romain. In an interview granted to the Benin press during his stop, the general director of UNESCO outlined the lessons of the Yaounde conference which, M'Bow said, was the first UNESCO conference on communication in Africa. According to the director of UNESCO, the conference was important because of the subjects taken up, the recommendations adopted and the "Yaounde declaration," which was unanimously supported by delegates. The decisions made at the conference will certainly have an effect on development and international cooperation in the field of communication and inter-African relations.

In answer to the question about whether the advent of the new international order in information depended on a strengthening of African communications policies, M'Bow remarked that the coming of the new world information and communications order requires a number of coinciding actions. "It is important to define national information policies first, to plan action to be undertaken over a rather long period of time and to determine priorities. But the national effort must be supported by international aid because in current international relations, the Third World countries are in difficult situations that do not allow them to mobilize the necessary means.

"What was remarkable at the Yaounde conference was the fact that all participants agreed that means of mass communication are not only new means of spreading information, but privileged instruments of national development as well. The Yaounde conference particularly emphasized the disparities existing in the world in the communications field. Consequently, the national effort made by our countries must be accompanied by international action aimed at modifying existing relations so that African nations can make their voices heard and obtain the techniques enabling them to better use means of communication to ensure their own national development and make people understand the vision they have of their own problems and those of the world as a whole."

Turning to the question of the establishment of a fund for the development of communication, M'Bow said that the question was taken up at Yaounde by the delegates, who made proposals regarding the financing of mass means of communication. "Delegates to the Yaounde conference even went further than the Paris conference held in April, which proposed the establishment of a communications development fund."

They recommended the establishment of an African fund for the development of communication. M'Bow specified that for his part, he saw no contradiction between the establishment of an international organization to finance communication and the existence of a specifically African organization for the same purposes. The essential point is to find articulations between the two methods of financing so that there will be no complications and so that one may mobilize the necessary funds at the present time.

Regarding the matter of whether, in addition to financing the development of our national press agency UNESCO intended to carry out other projects in our country, the general director of UNESCO observed that this essentially depended on Benin. Nevertheless, he pointed out that in the course of his meetings with our minister of information in Yaounde, Comrade Azonhiho had told him of projects underway in Benin, projects to which UNESCO might lend its help.

When asked to say how he would undertake a new term if reelected, M'Bow noted that there is no individual candidacy for the general leadership of UNESCO and that the general director of UNESCO is proposed by the member states. He nevertheless stated that if reelected, he would continue his action along the line begun since 1974, to wit, that UNESCO would make its contribution aimed at correcting inequalities now existing in the world. UNESCO's role is to contribute to peace, but there can be no peace in the world when there are such great disparities and when many nations live in hunger, ignorance, disease and poverty. M'Bow concluded that it is therefore important for the international community to contribute to the correction of these inequalities. Mankind has reached such a point that one must accept, not the de facto interdependency that exists, but solidarity that will unite all peoples.

11,464
CSO: 5500

NEW TELEGRAPH STATION IN OPERATION

Yaounde CAMEROON TRIBUNE in French 30 Jul 80 p 9

[Text] A radiotelegraph station for the reception, transmission and distribution of telegrams has been set up in Bandjoun (Mifi Department).

The Bandjoun Radiotelegraph Station is ranked in fourth class for the assignment of the management and liability allowance granted to postal and telecommunications accountants.

In accordance with a decree of the chief of state signed last 16 July, Mrs Lydia Ndolo Ekaney is authorized to practice the profession of law, residing at Younde.

Before any practice of her profession, the party concerned must give proof of:

--Insurance covering her liability;

--A proper installation agreed to by the council of order and taking the oath specified in Article 14 of Law No 72/LF/5 of 23 May 1972. The Minister of Justice, Keeper of the Great Seal, is responsible for the implementation of the present decree which the party concerned will be informed about and which will be published in the official gazette in French and in English.

By decree of the chief of state, dated 16 July 1980, Atangana Basile is admitted to take a course as a bailiff under the tutelage of instructor, Evoze Sylvestre, officer of the court at Yaounde.

8490
CSO: 5500

NATION'S TELEPHONE LINK WITH AFRICA NEARS COMPLETION

Nairobi DAILY NATION in English 30 Aug 80 p 3

[Text]

KENYA's communications link with the rest of Africa will soon be completed.

Kenya Posts and Telecommunications has started to install a telephone network in North Eastern Province which will be the final stage.

"When the project, which involves millione of shillings, is completed, the whole of that area will be linked with our neighbours to the north including Somalia, the Sudan and Ethiopia," said the corporation's managing director, Mr. Kip Ng'eno arap Ng'eny.

He disclosed this yesterday when paying a courtesy call on Coast PC Luka Galgalo.

Accompanied by his deputy, Mr. Philip Okundi, the corporation's financial controller, Mr. Douglas Mbela, and the principal public relations officer, Mr. Salim Juma, he introduced the divisional manager (Coast), Mr. Charles Muga, to the PC.

Mr. Okendi said the project would link Meru, Modagash, Habaswein, Wajir, Elwak, Rhamu and Mandera.

The network will also link Garsen, Hola and the Bura irrigation scheme.

"This project is complementary to the Pan African Telecommunications Network which is being processed and might go into operation any time to link the whole. of Africa," said Mr. Okundi.

He said that, with the completion of the network, and an improvement to postal and telecommunications services in rural areas, "Kenya will be better linked and easily accessible to all international centres".

Reviewing the current development programme in Coast Division, Mr. Muga said more emphasis would be put on rural areas "in line with the Nyayo policy".

He said telephone exchanges would be installed at Mpeketoni (Lake Kenyatta settlement scheme), Faza Island, Witu, Bura, in Taita, and Bura Irrigation Scheme.

The manager also said the programme included the installation of exchanges at Lunga-Lunga border post, Ukunda and Watamu.

"For our divisional headquarters in Mombasa, we also intend to add six storeys to the main GPO building," said Mr. Muga.

The construction of this second phase, which will start early next year, is estimated to cost about Sh. two million.

Mr. Galgalo praised corporation officials for decentralising services, which, he hoped would signal the beginning of better services to wananchi.

"We hope that the past feeling that the corpporation was concentrating services for a few individuals will now be forgotten", he said.

CSO: 5500

BRIEFS

RADIO RECEPTION TO BE IMPROVED--The government is to spend 200 million shillings to improve the Voice of Kenya radio reception in all parts of the country. This was said yesterday by the minister for Information and Broadcasting, Mr Oloo Aringo, when he addressed a leaders meeting at the Kilifi county hall. The minister said when the installation of the new booster station is completed, radio reception will be clear and this will discourage Wananchi from tuning to foreign stations. Saying that Kenya was always ready to foster goodneighborliness, Mr Aringo added that the government was concerned about the habit of some Kenyans switching to foreign radio stations which, in most cases, beamed anti-Kenya news. The minister said the government will introduce rural newspapers in more undeveloped areas of the country to enable Wananchi in those areas to exchange information freely on their own culture and be able to know the development already achieved in their areas. [Excerpt] [LD031150 Nairobi Domestic Service in English 0400 GMT 3 Sep 80]

CSO: 5500

BRIEFS

AUTOMATIC TELEPHONE SYSTEM--A new automatic telephone system, which will connect CDM to any part of the world, will be installed in December. The new system is an electronic 2,000 line private automatic branch system called Philips EBX 8,000. When the system is installed, all outgoing and incoming calls will initially be handled by switchboard operators. CDM preferred an installation of the 94 direct lines earlier than the scheduled end of the first year, but the Department of Post and Telegraphs is not in a position to do so yet. Oranjemund will therefore have to continue with the limited number of lines at present, although more will be added in stages. Two of CDM's telephone technicians are currently being trained in all aspects of the new exchange system at the Philips factory. They will be responsible for the maintenance of this system. [Text] [Windhoek THE WINDHOEK ADVERTISER in English 19 Aug 80 p 7]

SA-MANUFACTURED COMPUTER--The SA-manufactured Data Pac 100 computer for commercial use will be demonstrated to visitors to the Show, at the Enke stall. Some of the interesting features of this machine are its capacity to store 1,500 debtors, 500 creditors, or 40,000 stock items on two floppy discs as well as general ledger and balance sheet. Another unusual attraction at the Enke stall will be a service for microfilming personal documents. Up to 60 personal documents can be filmed and stored on a print measuring 8 by 11 cm, at a low fee of R6. [Text] [Windhoek THE WINDHOEK ADVERTISER in English 29 Aug 80 p 20]

RADIO SERVICE--The Southwest African Broadcasting Corporation is to introduce its own all-night service in October the first. A settlement by the corporation in Windhoek said the new service will replace the all-night service currently broadcast from South Africa on the Springbok radio channel. Besides being heard on the territory's English, Afrikaans and German transmitters, the new all-night service will also be received on all FM transmitters currently employed by the Ovambo, Herero and Damara Nama services. [Text] [LD130548 Johannesburg International Service in English 1100 GMT 11 Sep 80]

CSO: 5500

BRIEFS

BORNO STATE TELEVISION--The Borno State Government is to establish its own Television station within the shortest time possible. Governor Alhaji Mohammed Goni has appointed a five-man committee to study the system to be adopted in establishing the organisation. Addressing newsmen in his office on Monday, the state Commissioner for Information, Home Affairs and Culture, Alhaji Abba Tor Masta, said that the people of the state needed to be well informed about the activities of the state government. He stressed that establishing the TV station was a laudable step in the right direction. The commissioner claimed that the development project carried out by the state government have not received the attention and publicity they deserved. He said such a situation could not be allowed to continue unchecked. Malam Abba Tor said it was on the realisation of this situation that the state government decided to establish its own medium of communication to bring the people closer to the government and to keep them well informed of what was going on. He is the chairman of the five-man committee. [Text] [Kaduna NEW NIGERIAN in English 23 Aug 80 p 3]

SECOND SATELLITE STATION--Nigeria is to have a second satellite station in Kaduna soon. This hint was dropped in Lagos over the weekend by the minister for Communications, Alhaji Akanbi Oniyangi, while inaugurating the new 8-man board of directors of the Nigerian External Telecommunications (NET), in Lagos. The first satellite station is at Lanlate, near Ibadan, Oyo State. He said final arrangements had been completed on the new station. He urged the new directors to accelerate the execution and completion of the project which would have the effect of diversifying the country's links with the external world and thus stop further reliance on the Lanlate complex. He said the delay in starting the project had been due to the rather lengthy negotiations on external financial aid. [Excerpt] [Lagos DAILY TIMES in English 7 Aug 80 p 24]

CSO: 5500

ZAIRE

INAUGURATION OF MBUJI-MAYI GROUND STATION

Kinshasha ELIMA in French 3 Jul 80 pp 1, 7

/Text/ The state commissioner for national orientation, Dongo Badjanga, representing the executive committee, officially inaugurated Monday afternoon the ground telecommunications station by satellite at Mbuji-Mayi, with the commissioners of the eastern Kasai area, Efambe Y'Olanga and all the leaders of the diamond producing capital attending.

The ninth of 13 ground stations to be set up across Zaire, the Mbuji-Mayi station went into operation 39 months after the signing of a contract between Zaire and the Thomson Company for supplying and setting up 13 ground stations and 17 television broadcasting stations in Zaire.

The Mbuji-Mayi center will allow the local broadcast of national television programs produced in Kinshasa and telephonic, telegraphic and telex communications with foreign countries passing through the N'Sele international ground station.

The station is built on a 4,000 square meter area. It includes a main building with electronic telecommunication equipment, a dual color television transmitter, as well as equipment for transmitting by wireless beam which assures a connection of the ground station with the Kinshasha-Lubumbashi axis and the General Post Office. It also includes a secondary building occupied by two emergency electric generating units, a medium station transformer and a spatial parabolic antenna.

The commissioner of the eastern Kasai region, Efambe Y'Olanga declared that the inauguration of the Mbuji-Mayi ground station is the realization of the goal of our leader, Mobutu Sese Seko, to provide all of Zaire's people with adequate facilities for education and mass information.

Efambe added: "The Mbuji-Mayi Station will allow the militants in the diamond producing capital to experience, in contact with their brothers and sisters in other areas, the events which enhance our national life."

The regional commissioner was also delighted with the solutions which the Mbuji-Mayi ground telecommunications station by satellite offers for eastern Kasai's enclave problems.

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CSO: 5500

ZAIRE

COMMERCIAL TELECOMMUNICATIONS BY SATELLITE

Kinshasa ELIMA in French 25 Jul 80 p 8

[Text] The state commissioner for posts, telephones and telecommunications, Tokwaulu Bolamba, announced this Wednesday during a press interview that commercial telecommunications by satellite have just been established between the country's large cities and centers, namely Lubumbashi, Kisangani, Bandundu, Bukavu, Mbandaka, Kolwezi, Gbadolite and Kamina.

Tokwaulu, who had brought together, on this occasion, all the leaders of the ONPTZ [Zairian National Postal and Telecommunications Office] General Administration to discuss telecommunications and network changes, indicated that putting intercity commercial telecommunication connections by satellite into operation, in addition to the existing high frequency communications, will make it possible to increase the capacity and quality of communication both by telephone as well as by telex and between different regions.

The state commissioner declared it will be possible from now on for a correspondent in Kisangani, for example, to reach Kinshasa and foreign countries through automatic telex communications, which is an important step in the framework of the development of a Zairean telecommunications system.

In answer to a question, Tokwaulu indicated that after the broad-scale effort of overhauling ONPTZ's operation which was the first step in his efforts, his department has just begun the second stage of its program, namely solving of technical and operational telecommunication problems.

Thus, shortly after a month, all the ONPTZ regional telecommunication's services have been provided with suitable equipment, necessary for updating the cables of the junctions between exchanges, which until now were the cause of many telephone breakdowns. Since then, after the end of the operation on last 20 July, we have observed an improvement of about 80 percent in the quality of the calls made between subscribers and a net increase of capacity on exchange lines, which were only operating at 30 percent and which have soared up to near 90 percent of their rated capacity.

To conclude, the state commissioner for posts, telephones and telecommunications announced the inauguration of a complaint register, a sort of "list of grievances," in which the office's customers will be able to record their complaints and possible disorders observed in their respective lines.

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CSO: 5500

BRIEFS

ZAIRIAN EXPERIMENTAL TV TRANSMISSIONS--Uvira 24 Jul (AZAP)--Experimental television transmissions have begun at the Kiliba earth statellite station since 20 July last. The Kiliba relay station, which has an output of 12 kilowatts, can serve towns within the radius of 200 kilometers: Uvira-Kiliba-Burundi-Rwanda and a part of Tanzania. [Kinshasa AZAP in French 1925 GMT 24 Jul 80 AB]

CSO: 5500

BRIEFS

SATELLITES HELP GRAIN GROWERS--Artificial earth satellites have helped give timely warnings about oncoming dust storms and thunderstorms to Kazakh grain growers in Semirechye. As a result, the farms in this zone have transferred harvest transport machinery to those fields where wheat was still standing, thus preventing loss of grain crops through strong winds. Now, centers for receiving meteorological information from satellites have been set up in all the main grain crops areas of Kazakhstan situated between the Irtysh and the Urals. [Text] [LD172148 Moscow Domestic Service in Russian 1900 GMT 17 Aug 80]

COSMOS-1206 LAUNCHED--Moscow, 15 Aug TASS--The Soviet Union today launched an artificial earth satellite Cosmos-1206. The satellite is fitted out with scientific equipment for continuing space research. The satellite has an initial period of revolution of 97.4 minutes, maximum distance from the earth's surface is 659 km, minimum--630 km, inclination of the orbit is 81.2 degrees. [Text] [LD150956 Moscow TASS in English 0954 GMT 15 Aug 80]

NEW TASHKENT TV TOWER--Tashkent--Installation work has begun on the unique 500-ton structure of a strut [podkos] which is to form one of the three "legs" of a new 350-meter television tower in Tashkent. L. Korneyeva, chief of the technical department of the local radio and television projects construction directorate, says: "The erection of this structure, the highest in the Uzbek capital, is taking place by means of a fundamentally new technique for the installation of the shaft and support. The height of the tower has now reached 101.6 meters. In order to give the mast stability in a zone of high seismic activity and to further increase the height of the shaft by special layering [nakatochnyy] methods, struts are being erected and joined to the load-bearing metal structure. This method was proposed by the engineers of the All-Union Research and Design Institute of Industrial Steel Structures, and their designs are being implemented by the workers of Leningrad's No 26 Installation Administration of the Spetsstalkonstruktsiya Trust. The installation of radio transmitters, the six antennas and electricity supply equipment is entrusted to the Radiostroy Trust. It is planned to commission the new television tower in 1981. It will improve the quality of broadcasts. [Text] [LD081141 Moscow IZVESTIYA in Russian 27 Aug 80 Morning Edition p 6]

CSO: 5500

CNET REORGANIZATION UNDER WAY

Paris AFP SCIENCES in French 5 Jun 80 pp 7-8

[Text] Paris--The reorganization of the CNET is being implemented: The reorganization of the National Center for Telecommunications Studies (CNET), of which an "audit" was conducted recently under the supervision of Mr Marechal, director of the Optical Institute and former delegate general for scientific and technical research, is gradually being carried out.

Speaking on 2 June at CNET headquarters in Issy-les-Moulineaux on the occasion of the presentation of the 100th issue of L'ECHO DES RECHERCHES (a periodical published jointly by the CNET and the National Advanced School of Telecommunications), Jean Syrota, director of industrial and international affairs of the Ministry of Industry, has provided some details in this regard:

The policy that will enable the CNET best to accomplish its double mission (research and expertise) is grouped into three orientations:

1. An intensified decentralization of the research centers: Decentralization of these centers--which at the present time number six in all and have relatively small staffs (65 personnel at Grenoble, approximately 550 in each of the centers at Lannion, 700 and 800 at Paris and 140 at Rennes)--"should serve to increase their autonomy of organization and therefore their adaptation to the requirements of research."

2. Increasing the level of staffing: Increasing the level of staffing will enable the CNET to attain the traditional level of the great centers of research (50 percent, on the average, by the conclusion of the Eighth Plan). These objectives should translate into the creation of several hundred additional staff positions between now and the end of 1985 (a total of 1,000 over a 6 year period).

3. An opening to the outside world: "The key phrase that sums up the new orientation of the CNET," Syrota emphasized, "is 'an opening to the world of research.' /Scientific consultative councils will be established in

each center during this summer./ [in boldface] In-depth visits by researchers involving stays of medium and long duration, and coordinated programs, have been arranged with French and foreign laboratories."

Syrota also announced that the General Directorate of Telecommunications plans "to promote the dissemination of the results of industrial research by encouraging the transfer of its staff personnel and /the creation of innovative enterprises, the first of which will be announced to you in the near future./" [in boldface]

For his part Maurice Bernard, director of the CNET, disclosed that the total CNET budget for 1980 exceeded one-half billion francs and that the CNET currently employs a total of 3,600 persons.

Bernard also announced the appearance this week of a book (in the Telecommunications Scientific and Technical Series) entitled, "Telecommunications, Objectif 2000" [Telecommunications: Objective 2000].

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MILITARY COMMUNICATIONS ORGANIZATION, DEVELOPMENT VIEWED

Paris DEFENSE NATIONALE in French Aug-Sep 80 pp 159-161

[Article by Emmanuel Gepeyre]

[Text] From 19 September to 5 October of this year, the Central Bureau for Communications (DCT) will organize National Communications Days at many of the nation's army posts, in order to increase awareness of the characteristics and possibilities of this branch. This event provides an opportunity to survey the communications field for 1980, since in the coming years it will have to master very swift and unprecedented technological advances.

The general purpose of communications is to make it possible to exercise command by establishing the connections necessary to transmit verbal or written information, in the form of orders, reports, intelligence, data, and documents. Connections have to be established among commanders, headquarters, and units scattered over large areas, notably throughout the nation's territory, under security conditions adequate to protect communications systems against ennemy interference, particularly electronic in nature. Finally, command has to be assisted in its decision making with data processing, and efforts have to made to neutralize ennemy electronic activity.

General Organization of Communications

By virtue of its role and functions, the communications branch is active at all military levels.

At the level of the central bureau, it participates in studies of the organization and utilization of the branch, and coordinates the development, application, and infrastructure support of the national fixed network of communications. It manages an annual budget of about 250 million francs, assures the operation of data transmission centers, formulates the personnel training system and objectives, and awards industrial contracts for implementation of infrastructure equipment.

At the level of each military region and each major unit, a communications command acts as technical counsel to the inter-branch command in the communications field, and directs the region's infrastructure communications. It has a communications unit responsible for providing and operating the necessary resources. The size of this unit varies with the echelon involved. It is the equivalent of a basic unit in a division, of two or three regiments in an army corps, of an army regiment, of a high command regiment, and of electronic warfare units above the army corps level.

Independently of these formations, infrastructure communications have specialized units at the national and regional levels. They are distributed in as many detachments as there are military divisions, major posts, schools, and bases to be serviced. Automatic data and information processing means are located at two national and six regional centers.

Battlefield Communications Development

The organization of armed forces communications has been studied in depth for many years.

Formerly, command posts (PC) were serviced by hierarchical relationships established point-to-point among communications centers associated with them. Any change in PC location inevitably meant a relocation of its communications center, resulting in transmission interruptions.

The current organization of communications systems is becoming more flexible. This leads to more stable communications centers, with a certain degree of independence from PC movements. It amounts to a geographic telecommunications network overlay, which is temporarily fixed, and whose structure, independent of PC location, covers the entire field of maneuvers, moving only as a function of situational fluctuations. The forces thus operate among the links of a vast network woven around technical centers, with which these forces coordinate depending on the situation, either by means of radio-telephone patches, particularly during movements, or by radio.

The effectiveness, flexibility, and excellent performance of this communications system organization, allow the tactical command of large subordinate units, the implementation command of support and reinforcement elements, notably those of army corps and the army, and the command of operational logistics.

Specifically, an army corps communications system consists mainly of the following:

A nodal radio network which assures essential connection requirements by means of radio-telephone and telegraph relays;

The use of the military and civilian telecommunications infrastructure for the national high command and the territorial command;

Radio-telephone networks used notably for alert broadcasts, and for complementing or assisting radio connections.

At the division level, the communications system consists basically of radio-telephone networks used mostly for large-unit internal connections, and point-to-point radio links to assure connections among PC's and with higher echelons.

By 1982, the communications system will be entirely automated with the placement in service of the Integrated Automatic Communications Network (RITA). Mobile electronic centrals or switchboards, interconnected by radio links which form a nodal-structure network, offer the best operating flexibility and independence with respect to PC movements.

The use of digital modulation makes it possible to guarantee consistent communications quality as well as effective and total coding. The procedure of communications routing by means of call dissemination, makes it possible to instantly locate call-designates without prior knowledge of their location in the network. The procedure also makes it possible to establish communications despite partial damages, through automatic by-passing of network defects.

It is also a totally integrated network: switching and transmission are linked; the network's radio integration devices provide moving users with the same services as fixed PC users; interfaces facilitate their connection with allied or national external networks, notably the RITTER army network, which covers the entire national territory with a high performance linkage system based on a line-of-sight tropospheric radio support, as well as on telegraph and telephone centrals which will soon be converted to electronics.

The communications branch is undergoing a real forward leap. The spread of data processing and digital technology, as well as the development of remote information processing and management procedures, all portend an exceptional rate of modernization. This rapid development will affect all sectors of the branch's activity, and will have important consequences on the structure of units, the utilization of resources, and the training of personnel.

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TELECOMMUNICATIONS AGENCY EXPANDS INTO NEW AREAS

Oslo AFTENPOSTEN in Norwegian 6 Aug 80 p 3

> [Text] The Telecommunications Agency is expanding steadily into new areas. This year an alarm transmission service will be introduced, which will aim at covering transmission of uneven types of alarms, for watch over and action controls and also guidance of remoted technical works and installations. Also within telefax, teletex, teledata, missing persons, cable conference TV and picture telephone, the Telecommunications Agency will be able in the future to develop its models and systems with negligible competition.

The alarm transmission service will be included in various alarm systems, where, for example, fire, theft or floods can be registered and reported via telecommunication to a central receiver. This will in turn transfer an order to an action instrument or something similar.

In the past private security organizations have been responsible for alarm transfers. In 1977, about 2000 such transfer lines were in operation. The Telecommunications Agency has now requested exclusive rights to transfer alarm signals via telecommunication and will gradually take over the private lines already in use. As per predictions made by Telecommunications Committee for planning on long sight, somewhat under 20,000 subscribers will be connected to telecommunications alarm transmission net by the end of 1983.

As per plans by Telecommunications Agency, the telefax service will be introduced in the entire country by 1981. Facsimile apparatus will be leased and kept up which will make it possible to exchange copies, drawings, etc. via telephone. This is, however, not a new system. Already 70 years ago, a document for the first time was transmitted over the borders, using facsimile. The facsimile apparatus in service of telefax will be able to transfer normal size documents within 3 minutes. This enables automatic reception and only "black" and "white" and not gray documents.

The department estimates that by the end of 1993 there will be 7000 subscribers leasing facsimile apparatus. The subscribers will likely be found within trade and public work.

Telecommunications is also appraising the establishment of a new teleservice for the exchange of documents between subscribers, based on date technique. This service will be called teletex. It is assumed to be full connecting traffic between telex subscribers and subscribers in the existing telex net. The reports submitted, indicate that teletex service will have a sufficient market in order to show a normal profit. The long-term plan is therefore based on the assumption that the Telecommunications Agency will start service in 1982 and then gradually expand according to demand.

Another slogan in tomorrows telecommunications, is teledata. This will make it possible for subscribers to seek information stored in centralized data bases. The reports available, indicate that teledata, subject to certain conditions, will get a sufficient market to provide a reasonable profit. The long term plan assumes therefore that Telecommunications Agency will be able to offer service to trade and public enterprise from 1983 and to private households from 1985. It is to a great extent a political question whether teledata should be introduced. Also seeking out persons, will, under long term plan come under the agency's services before 1983. In locating persons, a certain phone number can be dialed to alert people with special pocket size radio receivers.

Furthermore, the Telecommunications Agency is considering to extend cable TV. It will be plants which can spread TV programs from a central station to several geographically separated receivers. However, in the long term plan, funds for this service has not been allocated, notwithstanding, further exploration and research of the project.

Conference TV is based on transmission of sound and pictures between specially equipped rooms at two different locations. This enables conferences between groups of three to seven persons in each spot. In the long term plan, it is assumed that the Telecommunication Agency will start tests with conference TV in 1981-82. In the trial period studios will be set up with users in Oslo, Bergen and Trondheim.

The picture telephone service will give two-way picture and sound connection between instrument which has been installed at the subscribers. All subscribers will be able to phone one another. This service will, due to high costs, primarily be offered to industry and public offices.

9657
CSO: 5500

TELECOMMUNICATIONS AGENCY, OIL FIRMS ASK BEAR ISLAND LORAN C

Oslo AFTENPOSTEN in Norwegian 7 Aug 80 p 4

> [Text] The Telecommunications Agency suggests building eight new Loran C stations in Norway. One of the stations is suggested to be built at Bjornoya and later on it will be considered to build one each at Hopen and Ny-Aalesund. Bjornoya is also included in the Svalbard treaty which stipulates that constructions serving military purposes cannot be built in the group of islands. The Telecommunications Agency proposes therefore that all the new stations shall be built and operated by the agency and be used for civilian purposes. The suggestion was made upon request from Statoil, Norak Hydro and Saga Petroleum who have rights to drill in the north.

Trial borings which have so far taken place north of 62 degrees latitude, show that the navigation facilities which the oil rigs have today on the mainland, are not satisfactory. The rigs may take more than 1 week to get into an exact position and if these conditions are not improved, the oil companies and the government will stand to lose millions of kroner.

As AFTENPOSTEN understands it, the Ministry of Transport and Communications are supporting the Telecommunications Agency in this matter, Norwegian Hydrographic Maps and Survey Agency also very strongly expressed the view that the Loran C stations should be constructed to facilitate the task of surveying and mapping the northern waters. A parliamentary report on this matter is now being prepared and will most likely be presented to Parliament in the course of this fall.

The oil companies pointed out some time ago the problems with navigation which they have experienced north of 62 degrees of latitude and they asked us to find out how these conditions could be improved. Today, navigation in the North Sea is very satisfactory. The oil rigs are here navigated according to a private mini Loran C system, and from a navigational point of view, a similar public system would be best suited for use in northern waters, according to the head of engineers, Tryggve Endresen, with the Teledirectorate Agency, to AFTENPOSTEN. Endresen points out that the

Telecommunications Agency already in 1977 recommended that Loran C-chain should be extended to the entire country.

Two Stations

Until the present time, Norway has two Loran C stations. One is located in Bo in Vesteraalen and the other on Jan Mayen. Both of these stations are today served by military personnel and the expenses for the stations are covered by the american Coast Guard, which operates Loran C systems around the world. In 1977, a commission to estimate further extension of the Loran C system in Norway, made its recommendations. Endresen was the chairman of this commission, which in addition to members from the Telecommunications Agency, also had representatives from the Ministry of Defense, Ministry of Transport and Communications, Ministry of Fisheries and Ministry of Oil. Telecommunications Agency advocated among others, that new Loran C stations be constructed in Eastern Finnmark, Rolvsoy, Andoya, Rost, Satervaagen, Runde and by Bergen.

"Political Problems"

According to information we just received from the oil companies, indicates that one or several stations will be needed at the Svalbard islands, north of 62 degrees of latitude, in order to secure satisfactory means of navigation. We suggest, therefore, that a Loran C station be built at Bjornoya and later on eventually also at Hopen and New Aalesund, says Endresen. All these three locations are encompassed in the Svalbard Treaty so we realize this will be a political problem. Our authorities should, however, fully realize that it would be very difficult for the platforms in the north to find exact drilling positions, if this is not accomplished. At the present, the Ministry of Oil requires that drilling take place exactly within 10 meters of the assigned location. With the means of navigation at our disposal today, it may take more than a week to place the rig in a correct position.

It will take many years before other navigational means can be developed to improve these conditions. The equipment, therefore, which is now best suited to do this kind of work on land is Loran C. With this navigational system, it is possible to take bearings to determine exact positions in a short time and within 1200 to 1300 nautical miles from such a station. And it is definitely the best system available today, says Endresen.

He emphasizes the fact that at present time, this system is also being used for military purposes. Loran C is today used as a navigational system on all military ships on account of its good navigational qualities.

We have not taken a stand on this question which will be up to our political authorities. We are now offering these authorities to take over and operate all stations in the system, with the exception of Jan Mayen. And we will provide the manpower from our own personnel and we will then engage the system in civilian service, in order to provide the best navigational data we can give today to the merchant marine, the fishing fleet and the oil rigs in the area. It will cost about 23 million kroner to develop the new system here in Norway, says Endresen.

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CSO: 5500

OFFICIAL URGES OWN NORWAY SATELLITE IF NORDSAT REJECTED

Oslo AFTENPOSTEN in Norwegian 14 Aug 80 p 12

[Text] Norway may get its own television satellite. Under Secretary Halvdan Skard in the Ministry of Education and Ecclesiastical Affairs says that the work to expand TV offerings will continue even if the Swedes say no to or desire to postpone the decision regarding a common Nordic radio and television satellite. "If the Swedes say no or delay, the common Nordic project will come to naught," Skard emphasizes. Since the Swedish minister of education has indicated that Sweden may delay or even reject Nordsat, Halvdan Skard believes we face a new situation. "In case the Swedes say no or delay, the common Nordic project is by the board," he says.

The Swedish position has moved us one step closer to a Norwegian television satellite "Norsksat." "We have investigated the alternatives to a common Nordic satellite, and a purely Norwegian alternative can be ready in a short time," Skard points out.

Skard emphasizes that this is the only realistic way to get a TV-2 in Norway, and he expresses the desire for a discussion about more TV channels, even if the Swedes say no. "In case we should get Norsksat, we can, for example, use the satellite for national programs, while the current lines can be used for regional sendings, so that we get a kind of district TV," Skard says.

Under Secretary Skard believes that a Norwegian satellite is technically realistic, but it is a little too soon to say if it is economically possible. "A Norwegian project will presumably be more expensive than Norwegian participation in Nordsat, where we would pay a fifth of the costs," Skard points out.

Halvdan Skard states that the government has a positive attitude towards the basic idea of Nordic cooperation and wants to continue to work for it. This cooperation would, according to Skard, contribute to increasing cultural understanding among the Nordic countries and stem the influence which comes from the rest of Europe and their TV satellites. Skard informed "Dagsnytt" yesterday that it will take 6-8 years to acquire a Norwegian satellite.

Norway and Iceland are the strongest advocates of Nordsat. Denmark has a more wait-and-see attitude. The Danes can receive today TV programs from both Sweden and West Germany.

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CSO: 5500 END

JPRS 76550

3 October 1980

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 133

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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JPRS 76550

3 October 1980

WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 133

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BRIEFS

UGANDA-'TASS' AGREEMENT--An agreement between Uganda News Agency and TASS News Agency has been signed by the minister of information and broadcasting, Dr Anyoti, and the Soviet charge d'affaires, Mr Roman Lozhnikov. Under the agreement, engineers from TASS News Agency will come to train the staff of the Uganda News Agency in handling the machines provided to Uganda News Agency by TASS. Dr Anyoti hoped that the agreement will help to advance the standard of news coverage and the technical system of Uganda's mass media. The Soviet charge d'affaires, Mr Roman Lozhnikov, hoped that the exchange of information between the two agencies will assist in better presentation of the (?true picture) of political, social and cultural events. [Text] [LD181280 Kampala International Service in English 1000 GMT 18 Sep 80]

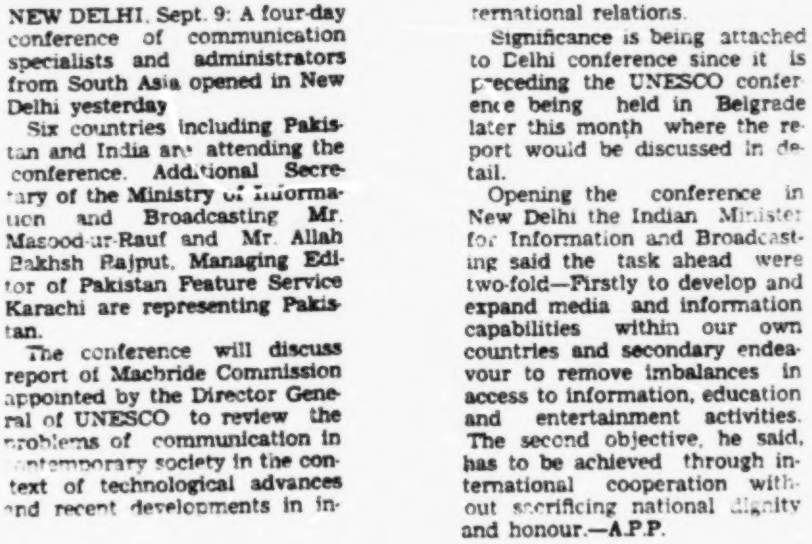
FRENCH-IRAQI TRANSMITTERS AGREEMENT--This morning Culture and Information Minister Latif Nasif Jasim signed three agreements with a French company regarding implementation of the shortwave radio transmission station project in Balad and the country's western and eastern radio station projects with a capacity of 2,000 kw each. The projects, which will be completed in 22 months and carried out in two stages, are aimed at transmitting Baghdad and the voice of the masses radios to parts of the world that have not been receiving Iraqi radio broadcasts so far. The above-mentioned projects include radio transmitters that transmit on mediumwaves and shortwaves whose capacity range between 500 and 2,000 kw, aerials to be directed to all parts to the world, electrical generators, public works and installations, and instruments for direct control and supervision of the stations in the radio and television corporation building in Baghdad. These projects, which cost about 54 million dinars, are among the radio coverage projects planned by the Ministry of Culture and Information. The signing ceremony was attended by ministry undersecretary Taha Yasin 'Ali, director general of the radio and television general corporation Hamid Sa'id, the French ambassador in Baghdad and ministry officials. [Text] [GF161410 Baghdad Domestic Service in Arabic [illegible] GMT 16 Sep 80]

CSO: 5500

COMMUNICATIONS CONFERENCE OPENS

Peshawar KYHBER MAIL in English 10 Sep 80 p 6

[Text]



NEW DELHI, Sept. 9: A four-day conference of communication specialists and administrators from South Asia opened in New Delhi yesterday

Six countries including Pakistan and India are attending the conference. Additional Secretary of the Ministry of Information and Broadcasting Mr. Masood-ur-Rauf and Mr. Allah Bakhsh Rajput, Managing Editor of Pakistan Feature Service Karachi are representing Pakistan.

The conference will discuss report of Macbride Commission appointed by the Director General of UNESCO to review the problems of communication in contemporary society in the context of technological advances and recent developments in international relations.

Significance is being attached to Delhi conference since it is preceding the UNESCO conference being held in Belgrade later this month where the report would be discussed in detail.

Opening the conference in New Delhi the Indian Minister for Information and Broadcasting said the task ahead were two-fold—Firstly to develop and expand media and information capabilities within our own countries and secondary endeavour to remove imbalances in access to information, education and entertainment activities. The second objective, he said, has to be achieved through international cooperation without sacrificing national dignity and honour.—A.P.P.

CSO: 5500

BRIEFS

INDONESIA-THAI SATELLITE ACCORD--Jakarta, 17 Sep (AFP)--An agreement on expanded use of the Indonesian Palapa satellite by Thailand was signed here today between telecommunication authorities of the two countries. The agreement, signed by Thailand's Director-General of Post and Telegraph Maj Gen Suchat Phuaksakon and PERUMTEL (Telecommunication Corporation) Executive Budi Santoso for Indonesia, provides for Thai use of an additional 13 transponder channel units for a five-year period. [Text] [BK181239 Hong Kong AFP in English 1646 GMT 17 Sep 80]

CSO: 5500

PTT MINISTER SAYS DOMESTIC SATELLITE SYSTEM PLANNED

Dacca THE BANGLADESH OBSERVER in English 11 Jul 80 p 12

[Text] Mr Mayeedul Islam, Minister for Posts, Telegraphs and Telephones, said that domestic satellite system will be introduced in the country within the first phase of the Second Five-year Plan.

Laying the foundation stone of the second satellite earth station at Kaliakoir, thirty miles off the Metropolis on Thursday, he said that with the commissioning of the new B-type satellite earth station the horizon of country's telecommunication network would be improved greatly raising the standard to that of the developed countries of the world.

Mr Mayeedul Islam said that the new satellite station would facilitate maintenance of an uninterrupted telecommunication link with the neighbouring countries and outside world with which Bangladesh cannot keep communication through the Betbunia satellite earth station. The Minister added that scheme has taken for remodification and modernisation of the Betbunia station.

He said that the cost of setting up of second satellite station would be about Taka 9 crore and to be completed by February next year. The government's decision for introducing domestic satellite system is to improve the country's internal telecommunication facilities, television viewing and radio programme, the Minister observed. Mr Mayeedul Islam also mentioned that this decision had taken in view of the cost of such project had remarkably decreased in the recent times. He informed that steps have also been taken to improve the microwave system in the country with a view to maintaining better telecommunication link with the outside world.

He called upon the engineers and technicians of the T&T Board to work with a missionary zeal and sincerity to implement the project within the schedule.

Giving an account of the performance of T&T Board, the Minister asserted that the revenue earnings of the Board has been increased substantially in recent times although there were about 300 complaints of inflated telephone bills. The complaints are now under proper investigation, he added.

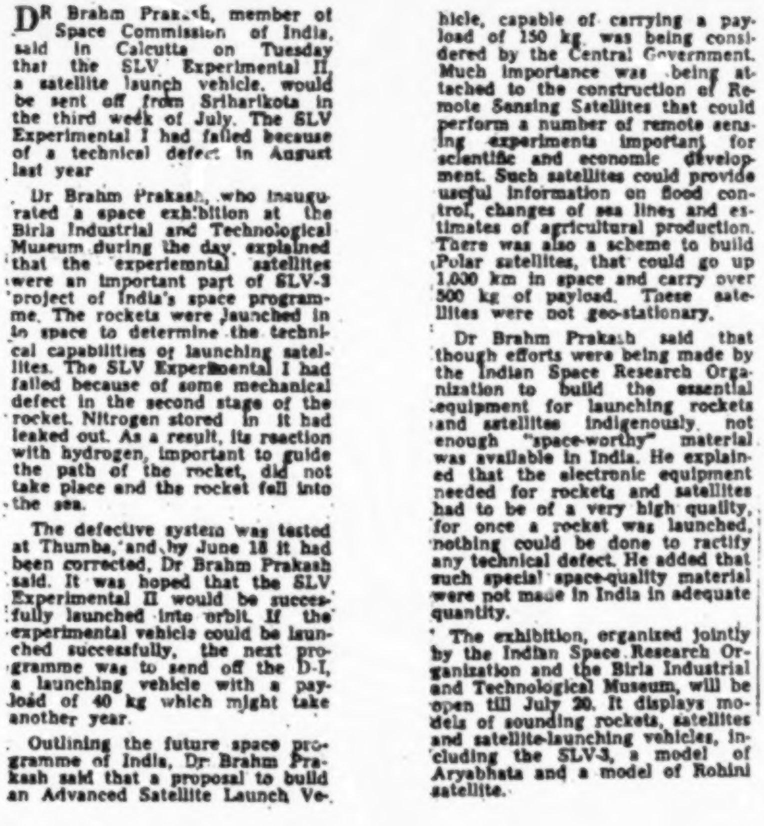
The function was also addressed among others, by Mr A. M. Ahsanullah, Secretary Ministry of P.T. & T., Mr A. B. M. Taher, Chairman, T & T Board and Mr Moqsood Ali Khan, Member (Pistning) T & T Board. [as published]

CSO: 5500

SPACE COMMISSION MEMBER OUTLINES FUTURE PROGRAM

Calcutta THE STATESMAN in English 2 Jul 80 p 3

[Text]



DR Brahm Prakash, member of Space Commission of India, said in Calcutta on Tuesday that the SLV Experimental II, a satellite launch vehicle, would be sent off from Sriharikota in the third week of July. The SLV Experimental I had failed because of a technical defect in August last year

Dr Brahm Prakash, who inaugurated a space exhibition at the Birla Industrial and Technological Museum during the day, explained that the experiemntal satellites were an important part of SLV-3 project of India's space programme. The rockets were launched in in space to determine the technical capabilities of launching satellites. The SLV Experimental I had failed because of some mechanical defect in the second stage of the rocket. Nitrogen stored in it had leaked out. As a result, its reaction with hydrogen, important to guide the path of the rocket, did not take place and the rocket fell into the sea.

The defective system was tested at Thumba, and by June 18 it had been corrected, Dr Brahm Prakash said. It was hoped that the SLV Experimental II would be successfully launched into orbit. If the experimental vehicle could be launched successfully, the next programme was to send off the D-I, a launching vehicle with a payload of 40 kg which might take another year.

Outlining the future space programme of India, Dr Brahm Prakash said that a proposal to build an Advanced Satellite Launch Vehicle, capable of carrying a payload of 150 kg, was being considered by the Central Government. Much importance was being attached to the construction of Remote Sensing Satellites that could perform a number of remote sensing experiments important for scientific and economic development. Such satellites could provide useful information on flood control, changes of sea lines and estimates of agricultural production. There was also a scheme to build Polar satellites, that could go up 1,000 km in space and carry over 500 kg of payload. These satellites were not geo-stationary.

Dr Brahm Prakash said that though efforts were being made by the Indian Space Research Organization to build the essential equipment for launching rockets and astellites indigenously, not enough "space-worthy" material was available in India. He explained that the electronic equipment needed for rockets and satellites had to be of a very high quality, for once a rocket was launched, nothing could be done to ractify any technical defect. He added that such special space-quality material were not made in India in adequate quantity.

The exhibition, organised jointly by the Indian Space Research Organization and the Birla Industrial and Technological Museum, will be open till July 20. It displays models of sounding rockets, satellites and satellite-launching vehicles, including the SLV-3, a model of Aryabhata and a model of Rohini satellite.

CSO: 5100

SPACE DEPARTMENT PLANS REMOTE SENSING SATELLITE

New Delhi PATRIOT in English 11 Jul 80 p 5

[Text] The Department of Space is planning the development of the required technology and facilities for its major programme of building an Indian Remote Sensing Satellite (IRS), reports UNI.

The satellite is to be launched during 1984-85, and plans are under way for finalisation of the system configuration.

The department held discussions with a number of user Ministries and State Governments.

The IRS will be built to meet the requirements of these users and the need of resource managers in various disciplines. It is considered the first major step towards achieving one of its main programme goals, space-based remote sensing for resources management.

Preliminary analysis indicates that a 732-km sun-synchronous near-polar orbit and a two-year operational life will meet most of payloads on the first IRS are likely to be a six-channel Multi-Spectral Scanner (MSS) and a two channel liner imaging self-scanning system.

The IRS will be a 600-kg body-stabilised satellite with deployable solar panels. Detailed configuration of the various sub-systems is in various stages of definition, according to the annual report of the Department of Space for 1979-80.

The computer design of the telescope for the IRS MSS is nearly complete. Data product techniques are also being studied.

Meanwhile, the meteorological experiments carried out by Bhaskara has provided valuable insights into the meteorology over the Bay of Bengal and Arabian Sea, according to an analysis of the data.

The data gathered from Samir (microwave radio-meter) of Bhaskara are providing information on ocean surface temperature, ocean winds and various meteorological parameters such as atmospheric moisture content on a continuous basis.

The indigenously developed solar cells supplied by the Bhabha Atomic Research Centre (BARC) and Solid State Physics Laboratory (SPL) have performed satisfactorily in the space environment.

CSO: 5500

SATELLITE READY FOR SHIPMENT TO FRANCE

Bombay THE TIMES OF INDIA in English 30 Jun 80 p 13

[Text] Bangalore, June 29 (PTI): The Ariane passenger payload experiment (APPLE), which will be used for conducting communications experiments, has successfully undergone two final tests at the Indian space research organisation (ISRO) satellite centre at Peenya near here.

The APPLE, scheduled to be launched by the Ariane launch vehicle of the European space agency in November this year, is now ready to be moved to France next month.

According to the original schedule, APPLE was to be moved from here on June 5, and to be lifted off from Kourou in French Guiana on November 7. Apparently there is some delay in taking off.

French Tests

"We are waiting for the final communication from the European space agency (ESA) for moving APPLE from here," Dr. R. M. Vasagam, APPLE project director, said here today.

In Toulouse in France, APPLE will undergo acceptance tests along with two other payloads slotted to make up Ariane's third developmental flight (Lo 3), before finally journeying to Kourou.

APPLE, which will operate in a geostationary orbit, will have the capability to transfer itself to a geostationary orbit from a parking orbit where it will be placed by the Ariane launch vehicle.

The project is a major step towards using the latest technology of modular spacecraft structure with three-axis body stabilisation.

The satellite will carry two C-band transponders in the 4/6 GHZ range which will be used for conducting communication experiments.

CSO: 5500

BRIEFS

SPACECRAFT MECHANISMS MANUFACTURED--Indian space scientists have established the country's component for indigenously manufacturing and fabricating highly sophisticated spacecraft mechanisms and devices. The devices and mechanisms fitted in the Indian satellites Bhaskara and Rohini have already proved their worthiness. Indigenous fabrication of these devices will help save several million of rupees in foreign exchange. [Text] [BK170935 Delhi Domestic Service in English 0830 GMT 17 Sep 80]

TV NETWORK--The TV network will cover an area of over 485,000 square kilometers during the current plan period. New TV centers will be opened at Ahmedabad, Bangalore and Trivandrum. This was disclosed by Minister of State for Information and Broadcasting Mrs Ram Dulari Sinha while addressing the TV program producers guild in Calcutta on 12 September. [Text] [BK131527 Delhi Domestic Service in English 1230 GMT 12 Sep 80]

TRANSMITTER STRENGTH BOOSTED--Minister of State for Information and Broadcast Mrs Ram Dulari Sinha has said that a 200-kilowatt transmitter will replace the 20 kilowatt transmitter at Siliquiri in north Bengal. This will make the all India radio program accessible even to the border and remote areas. She was speaking at a news conference in Calcutta today. [Text] [BK131621 Delhi Domestic Service in English 1530 GMT 13 Sep 80]

SUCCESS IN REMOTE SENSING--India has made a breakthrough in remote sensing by interpreting satellite pictures. Indian scientists have carried out the first ever study of snowfall conditions in the Himalayas with the help of these pictures. The job is being handled by the national remote sensing agency, Secunderabad. [Text] [BK160335 Delhi Domestic Service in English 0240 GMT 16 Sep 80]

SATELLITE IN ORBIT 500-600 DAYS--Rohini RS01, which was shot into the orbit from the Sriharikota range in July last, is likely to stay up for at least 500 to 600 days, according to the latest analysis of the orbit data. This was disclosed by the Indian Space Research Organization sources today. RS01 had completed 870 orbits till today and all its components were working satisfactorily. The spin weight of the satellite was coming down as expected, the sources added. [Text] [BK131029 Delhi General Overseas Service in English 1000 GMT 13 Sep 80]

COMMUNICATIONS SATELLITE DELAY--Cochin, June 29. The INSAT (Indian National Satellite) communications satellite would be launched only around March 1982, the Union Communications Minister, Mr. C. M. Stephen, said here on Saturday. Answering pressmen's questions he said the delay was caused by reported inability of the U.S. manufacturer to procure certain items of equipment in time. Mr. Stephen said a special effort was under way to improve the quality of postal and telecommunication services Supervisory failures was one reason for the deterioration in the quality of service, he said in reply to a question. He said the period 1974-80, had seen tremendous expansion of postal and telecommunication services, without much attention being paid to the quality. Now there would be an year of consolidation and defects would be identified and rectified, he added. [As published] [Text] [Madras THE HINDU in English 30 Jun 80 p 11]

CSO: 5500

SUBMARINE CABLE LINKS EAST, WEST MALAYSIA

Kuala Lumpur BUSINESS TIMES in English 25 Aug 80 p 1

[Text]

A $64 million undersea cable link between Peninsular Malaysia and Sabah and Sarawak to be opened next week will enhance telecommunication facilities in the country.

From next Sunday, telephone users in both these areas will be able to dial direct to one another through the new submarine cable link between Kuantan and Kuching, the first domestic undersea cable project.

The cable system which has a capacity of 1,200 telephone lines has a useful life of 25 years, according to a government statement yesterday.

Although essentially a domestic system, it has provisions for future telecommunications links between Peninsular Malaysia and the Philippines as well as Kalimantan.

This new communications system between the two parts of the nation is in addition to the 48-channel Johor Bahru-Kuching tropopheric scatter system, the 72-channel Kuantan-Kota Kinabalu domestic satellite system and the 18-channel Singapore-Kota Kinabalu Seacom cable link.

The new system is the first domestic undersea cable project, although there is already the Commonwealth submarine cable project in the South China Sea (Seacom) with its station at Kota Kinabalu.

The statement said the terminal cable stations for the new system are at Cherating, 43.5 km (27 miles) north of Kuantan, built at a cost of $1.2 million, and at Sematan, 112.7 km (70 miles) from Kuching in the First Division, costing $1.5 million.

Work on the project began in September last year and the cable was laid by a ship from Japan, KDD Maru.

The distance between the Cherating and Semantan stations is 863 km (536 miles) but the cable length is longer to conform with submarine contours and to facilitate the cable being lifted for repairs.

The 7.6 cm (3 inches) diameter cable is buried one metre (3.3 ft) deep.

According to the statement, plans for the project began in 1970, and geological studies for suitable locations for the terminal stations were carried out in 1975.

In 1977, submarine cable traffic studies were conducted by the Japan International Co-Operation Agency as part of the Japanese government's technical assistance to the Malaysian government.

To mark the commissioning of the submarine link-up, the Postal Services Department will issue three commemorative postage stamps and first day covers.

The stamps will be of 10 cents, 15 cents and 50 cents denominations. — Bernama

CSO: 5500

BRIEFS

BALUCHISTAN COMMUNICATIONS TO IMPROVE--A comprehensive program has begun to improve communications in the Baluchistan area after consultations with elected representatives from the area. This was stated by the director general of the development institute for northern areas in Skardu while inaugurating the Khurbi bridge. He said the government is giving full attention to the development of the area, especially in the communications sector. He said work will begin on a new 10-kw-capacity broadcasting house in Skardu by the end of this month. [Text] [GF151747 Karachi Domestic Service in Urdu 1500 GMT 15 Sep 80]

CSO: 5500

BRIEFS

XINJIANG RADIO, TELEVISION NETWORK--A new development has been made in radio and television broadcasting in Xinjiang Uygur Autonomous Region. A region-wide radio network has been formed, featuring programs in Uygur, Han, Kazak and Mongolian languages. In the Urumqi area, television programs are aired in Uygur and Han languages. Broadcasting stations have been set up in every county and farm in Xinjiang, and amplification stations have been set up in the communes where 1 million loudspeakers have been installed. [OW180649 Beijing Domestic Service in Mandarin 0900 GMT 11 Sep 80]

CSO: 5500

SECOND LEG OF ASEAN SUBMARINE CABLE INAUGURATED

Kuala Lumpur BUSINESS TIMES in English 9 Aug 80 p 1

[Text]

SINGAPORE, Aug. 8
THE Indonesia-Singapore submarine cable network, the second leg of the system linking the Asean countries, was officially inaugurated today.

To mark the occasion, Singapore's Communications Minister, Mr Ong Teng Cheong, spoke to his Indonesian counterpart, Mr Roesmin Nurjadin, with an IDD (international direct dialling) telephone call.

The US$30 million cable stretches over 570 nautical miles of water between Singapore and Jakarta. It has a capacity to carry 480 channels of traffic, including telephone, telex, telegraph and data.

The cable, built by Nippon Electric of Japan, was completed on April 1, almost three years after the two countries signed a memorandum of understanding in July 1977.

Perumtel of Indonesia is the major shareholder in the network with 50 per cent ownership, while Telecoms of Singapore owns 22 per cent. Malaysia, Thailand and Philippines, the three other Asean countries, also hold small shares, as also Overseas Telecoms of Australia, KDD of Japan and Cable and Wireless of Hong Kong.

This is the second network in the ambitious Asean circuit plan to link up the five countries.

The Singapore-Philippines link has been in operation for two years.

Singapore and Thailand last month signed a memorandum of understanding for a submarine cable linking the two countries, in which Malaysia is also expected to participate. — AFP

CSO: 5500

BRIEFS

RADIO STATION IN PHATTHALUNG--Today Minister attached to the Prime Minister's Office Somsak Chuto opened the radio station in Phatthalung under controls of Radio Thailand. The station cost 3.4 million baht to build and is located in the central district of Phatthalung. The station has 10-kilowatt transmission power and the station's programs could reach areas up to 70 km away. [BK301147 Bangkok Domestic Service in Thai 1300 GMT 24 Aug 80 BK]

CSO: 5500

RUDIMENTS OF TELEVISION FROM SPACE DISCUSSED

Hanoi KHOA HOC VA DOI SONG in Vietnamese 1 Aug 80 pp 2,3

[Article by Tran Hoang Luong, of the Space Communications Research Subcommittee: "Television from Space"]

[Text] The transmission of topical pictures from a place to another and the transmission of the picture of the other side of the moon from the universe space to the earth by covering a distance of over 400,000 kms represent a progress in the [still] picture transmission technique. Though difficult, this process is simpler than the transmission of motion pictures.

Thanks to telescopes, man has been able to observe the sky and celestial bodies within a fixed scope. Since the successful launching of artificial satellites and along with the progress made in the color and black-and-white television technique, man has embarked on television from space. Pictures have reached us from space to small screens and from the surface of the earth to astronauts aboard spacecraft.

Television Signals

Sound transmission signals are very simple because only voices and music are transmitted within a frequency range of 20 to 15,000 Hz. During the broadcast, apart from the audio signals, high-frequency signals are also used to transmit sounds and they range from 100 kHz to 30 MHz. If microwaves are used to transmit many talk channels, the carrier frequency may range up to billions of hertz.

Television signals are much more complex and are mainly composed of:

--Picture signals: These represent the black-and-white or color dots of the picture to be transmitted, with a scanning frequency of 15,625 Hz--that is, scanning 625 lines for a picture--and a vertical scanning frequency of 50 Hz--that is, producing 50 fields per second (according to OIRT and CCIR).

--Synchronization signals: The pulses synchronize the horizontal and vertical scannings to stabilize the picture and prevent it from flickering.

--Accompanying sound [audio] signals.

The composite name for picture signal and synchronization signal is video frequency signal or simply video signal. The video signal and the audio signal are separately processed by a picture carrier and a sound carrier respectively.

Since the picture and sound signals occupy a rather wide frequency band of 6 to 8 MHz, the picture and sound carrier frequencies are fairly high--from 48.5 to 230 MHz--and are divided into 12 channels: The wave transmission within this frequency range is performed according to the direct line-of-sight, point-to-point method, without the electromagnetic waves being blocked by any obstacle, and the wave transmission scope of a television station usually has a radius of less than 50 kms. If antennas are used for transmission from a higher position such as the Tam Dao wave transmission station, the service scope may be expanded.

Wave transmission through space is effected according to the straight-path method. The satellite hovering in space must see the earth station and vice versa. If relay from the space station through the satellite to the earth station is necessary, the space station must see the satellite which, in turn, must see the earth station but the space and earth stations may not see each other.

In industrial television, when it is necessary to observe small objects with high precision, it is sometimes necessary to increase the number of scanning lines to more than 625 and to use special cameras and television receivers.

In space television, it is possible to use both industrial and general televisions according to the topic to be transmitted and the target to be serviced. For example, it was possible to transmit the activities of Lunakhot and the astronauts according to the OIRT common standards to serve the broad masses in the socialist camp and to enable them to conveniently follow these activities.

The processing of picture and sound signals [in space television] is somewhat different from that in general television.

In general television, video signals are processed by amplitude modulation while in space television frequency modulation is used to heighten the signal-to-noise ratio and the degree of trustworthiness when signals are to be transmitted over a very long distance of tens of thousands of kilometers and not within a range of only 50 to 100 kms as from a television transmitter to television receivers.

In addition, various processing methods by pulse [xung max] amplification and single amplitude modulation of video signals are used.

The "Lotus" [Hoa Sen] Earth Station processes picture signals by frequency modulation and the wave carrying the picture to be transmitted is 3,875 MHz; the sound signals are processed according to the subcarrier frequency so that the reception of pictures and the accompanying sounds must be regulated by the earth station of the Dubna Center in the Soviet Union through the medium of earth stationary orbit [dqiaj tinhx] Satellite Horizon 53 located above the Indian Ocean. Pictures transmitted from space go through the Dubna Control Center. The Moscow Central Television Station and the Dubna Center Station process these pictures and transmit them through the satellite to the "Lotus" Station in order to ensure uniformity of video transmission and processing formulas.

Picture Reception and Transmission in Space

Generally speaking, the method of receiving and transmitting pictures in space is theoretically similar to that used on the surface of the earth but differs in the sense that equipment is more specialized to conform to rigorous space conditions and that technical standards are more strict and involve appropriate processing and modulation formulas in order to ensure stability, trustworthiness and high quality of picture transmission.

Camera control may be assumed by the astronauts or preprogrammed or remotely and electronically effected within the spacecraft or from the earth surface. The video and audio signals picked up by the camera are conveyed to and processed by the transmitter in the spacecraft and then transmitted to the earth. Since the spacecraft equipment is compact, lighweight and precise and consume little energy, its output is usually small. For this reason, the signals reaching the earth surface are usually very weak--even weaker than the internal noise in the receiver--and cannot be picked up by ordinary amplifying conductors. This is because an important norm for reception is that the signal-to-noise ratio must reach a certain level and the higher this is, the better. To overcome this difficulty, large-diameter parabolic antennas with a high-boosting coefficient are used together with multiplexing [tham soos] amplifiers.

Conversely, when transmission is effected from the earth surface, the transmitter can have a high output so that the space station antennas--despite their small size and low-boosting coefficient--may pick up signals.

To follow up the astronauts' activities, cameras are placed in the spacecraft to pick up pictures and voices which are then beamed to the earth by transmitters. Transmission to the earth may be effected immediately if the earth station is located within the beaming scope of the space station [transmitter]--that is, if the two stations see each other. To prevent interruption of transmission when the sight of either station is blocked by any obstacle, video recorders are used to record pictures which will later be transmitted to the earth when conditions are favorable for wave transmission.

Two-way transmission of pictures is possible as in the case of televised press conferences or talks.

Usually, pictures from space (of the spacecraft interior, of the moon and other planets and so forth) are transmitted to the earth station of the control center where, after processing, they will be relayed to the satellite and hence retransmitted to other ground stations. At these ground stations, the video signals received will be conveyed to the television center and broadcast to the network of television receivers in the country. If the distance from space is too long, it is possible to use the space station or satellite as a relay station to transmit signals to the earth station of the control center.

In short, to effect two-way television between two points in space or on the surface of the earth, there must be the same television standards, the same video and audio processing formulas and appropriate transmission and reception frequencies.

9332
CSO: 5500

MULTINATIONAL COMPUTER PRODUCTION VIEWED AS THREAT

National Manufacturers Alarmed

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 20 Aug 80 p 27

[Text] The permission granted by the Special Data Secretariat (SEI) for multinational companies to produce medium-sized computers in Brazil created great alarm among the officials of COBRA [Brazilian Computers Inc.], which is a state capital corporation and the main national corporation in the sector. In a meeting attended by the president of the Association of COBRA Employees, Luis Fernando Seibel; the president of the Association of Data Processing Professionals of Rio, Marilia Millan; the director of the Engineers Club, Frederico Novaes, and the representative of the state employees, Fernando Alzuguir, the conclusion was reached that the SEI decisions seriously threaten national plans in the area of computation and will harm all planning of coming sales of the medium-sized products such as the Cobra-500, with the buyers waiting instead for competing computers from foreign companies.

Luis Fernando Seibel even said that the enthusiasm of COBRA because of the launching within a month of the Cobra-500, the great new item in the area of medium-sized computers, has been erased because the market is going to wait for the foreign competitor, whose price could be worth waiting for.

"The price of the IBM medium-sized computers is going to drive the market of small computers down. They are going to offer a more sophisticated product for a price, shall we say, which is one-third greater but with a greater capability, even doubling the number of megabytes," said Marilia Millan.

The representatives of the workers of the computer sector also concluded that the end of restrictions to the entry of multinational companies into the area of medium-sized computers may accelerate the deactivation of the system of distributed process, which uses smaller computers and favors the industry of peripheral products, and favor the centralized system Network Architecture, the principal characteristic of equipment produced by IBM.

"We are practically witnessing the end of the preservation of markets," said Fernando Alzuguir of the Cobra Hardware Department. "Actually, we are not satisfied with the assurances of SEI with respect to the period of up to 1984 before the multinationals can manufacture those products. What is simply going to happen is that IBM will replace obsolete equipment with the newest equipment--in this case the 4331 MG-2--it will resell the old machines cheaply to new customers and then practically reshape the market to its own ideas."

The representatives of the worker associations also emphasized the degree of development of the national computer industry obtained in a relatively short time, recalling that the national companies signed agreements with foreign industries of small size for the development of technology and to fight the power of IBM. As an example they cited the COBRA-SYCOR (Canadian); the LABO-NIXDORF (Germany); the EDISA-FUJITSU (Japanese) and the SID-LOBAX (French) agreements.

The director of the Engineers Club, Frederico Novaes, also believed the permissions to build microcomputers granted to Hewlett-Packard, to Burroughs for its 6900, and even for the manufacture of magnetic disks, to be serious.

According to the representatives of the worker organizations of the computer sector, the new SEI policy is short-sighted and money oriented, benefitting only the immediate interests of the buyers without giving due attention to the key moment of development of the national industry, which would only need a few more years to reach its maturity.

Burroughs Approves Policy

Rio de Janeiro JORNAL DO BRASIL in Portuguese 15 Aug 80 p 19

[Text] Sao Paulo--"Protection is one thing, prohibition is another. I support the former but the latter displeases me," said the president of Burroughs, Mr Henry Eicher yesterday on the possibility of a policy for data processing which insures the development of national industry without interfering with the multinational company.

As far as he is concerned, the approval of the IBM project "was a positive step" and does not mean that the SEI is favoring that company to the detriment of Burroughs. "We are updating a medium-sized computer project and I hope that its reception by SEI will be good," he emphasized.

Rejected Plans

Mr Eicher said that Burroughs invested $80 million in plans not approved by the government and they would increase their exports by $60 million in 5 years. "Burroughs could contribute much more to data processing in Brazil," he said, recalling that the company has idle capital and industrial capacity.

He made an 18-minute impromptu speech to nearly 400 businessmen of the sector at the Buffet Colonial and said that the lack of computers in the country "leaves you, the users, in a dramatic position at that moment because since you cannot import them you are left without any options."

The president of Burroughs, seeking to characterize the complexity of the data sector in the world, made some comparisons on the use of computers in various countries with their GNP. His objective was to show that due to its complexity, it would be more important to have a greater freedom for the sector.

He pointed out, for example, the time it takes to build a computer, which from research to sales takes periods of between 10 and 20 years; the amount of capital and human resources required and the production levels of some developed countries. England produces 34 percent of what it uses in data; France, 7.7 percent; West Germany, 17 percent (Seimens alone produces 14 percent of what is consumed in the country); Japan, 55 percent and the United States, 100 percent of its needs.

Policy

Mr Eicher made a recapitulation of the protective measures for the sector, ranging from the actions of CAPRE [Electronic Data Processing Activities Coordinating Commission], which "as of 1975 required the appraisal of all imports." He added that later on it "established such a reservation of markets that imports became progressively smaller." In his opinion, that reserving of the market "has grown to such a point that it has reached unthought of areas."

The president of Burroughs said that at this time some users are using computers no longer being used abroad and that other machines are in no condition to receive programed software with the result that "all that means very high costs."

In view of that picture resulting from restrictions on imports, Mr Eicher forwarded a suggestion to the users. They should not wear themselves out or overload the SEI with presentations of projects repeatedly and individually."

He suggested that SUCESU--Association of Users of Computers and Subsidiary Equipment--gather all requests by users and then send them on to the SEI. "It would be more rational and would guarantee the establishment of a real framework which could lead to fairer or at least more adequate solutions."

Mr Henry Eicher believes the approval of the IBM project by SEI to be positive and he said that in dealing with the affair the least important thing was the citing of the names of the companies.

8908
CSO: 5500

ATLANTIC SUBMARINE CABLE INSTALLATION CONTRACT SIGNED

Negotiations Explained

Rio de Janeiro O GLOBO in Portuguese 21 Aug 80 p 21

[Text] Salvador (O GLOBO)--Telecommunications company representatives from 10 Latin American countries, Africa and Europe will sign a contract valued at $250 million tomorrow in Salvador for the installation of submarine cables which will link Brazil to Europe, passing through Africa. The ceremony will be attended by Minister of Communications Haroldo Correa de Matos and Argentine Secretary of State for Communications Eduardo Corrado.

The announcement was made yesterday by Helvecio Gilson, president of EMBRATEL [Brazilian Telecommunications Company] and TELEBRASIL [Brazilian Telecommunications]. The members of TELEBRASIL, a state telecommunications corporation, and private companies of the news media are holding their second discussion today in Salvador on the subject of "Rural Telephones." The first was on violence and held in Santa Catarina.

Atlantic Cable

Negotiations for the installation of the Atlantis Cable, crossing the Atlantic, began in 1976 and concluded in 1979 when there was already an outline of the makeup of the consortium which would do the work and the initial establishment of the share of each participating country.

Brazil holds the chairmanship of the General Committee of the Atlantis Cable System and is represented by EMBRATEL. Brazil also has the largest share: $250 million, which is 28.65 percent of the total.

The Atlantis Cable System has two sections: to the south it runs from Recife to Dakar in Africa, measuring 3,430 kilometers and having 1,380 telephone circuits. To the north it runs from Dakar to Lagos in Portugal, measures 2,930 kilometers and carries 2,580 telephone circuits.

According to Helvecio Gilson, installation of the Atlantis Cable is important from the economic, political and operational point of view. It is going to allow a greater communication between Brazil and Africa, consolidating political and economic relations, in addition to opening greater prospects for trade with Europe. Brazilian communications with Europe now are accomplished by means of 613 satellite channels and the Bracan-1 submarine cable, which runs to the Canary Islands and has 152 telephone circuits. It has already reached the saturation phase since Brazil's international telephone traffice is growing at the rate of 30 percent per year.

The president of EMBRATEL also pointed out the importance of the system from the point of view of reliability since Brazil cannot remain dependent on only one means of communications, in this case the Intelsat satellite system. The members of the consortium for the Atlantis Cable System are: Senegal, Ivory Coast, Brazil, Argentina, Great Britain, Portugal, France, West Germany, Switzerland and Italy.

Cable Contract Signed

Rio de Janeiro O GLOBO in Portuguese 23 Aug 80 p 20

[Text] Salvador (O GLOBO)--Yesterday, Minister Haroldo Correia de Matos, together with representatives of nine other countrys members of the international consortium Atlantis Submarine Cable System, signed two contracts for the purchase of cables in the amount of $250 million. The cables are for linking telecommunications of Europe, Africa and South America with the alternative system via satellite.

Negotiations involve the French companies Les Cables of Lyon and Cit-Alcatel and the British Standard Telephone and Cables. Brazil is chairman of the consortium (made up of Brazil, Argentine, Senegal, Ivory Coast, Portugal, France, West Germany, Great Britain and Switzerland) and has the majority share in the investment $71.6 million (3.9 billion cruzeiros), which amounts to 28.65 percent of the total.

Reliability of Cable Explained

Rio de Janeiro O GLOBO in Portuguese 23 Aug 80 p 20

[Text] Salvador (O GLOBO)--The president of TELEBRAS [Brazilian Telecommunications Corporation], Antonio de Alencastro Silva, said yesterday after signing the contract for the installation of the Atlantis Submarine Cable System with representatives of 10 countries, that this system despite being technologically less developed than the satellites gives a much greater margin of reliability. That is the reason Brazil is opting for it in the actual telecommunications expansion phase.

"In telecommunications the main concern is reliability, which may be obtained in two different ways: alternative routes or alternative systems.

"Today, technology, as Minister Haroldo Matos said in his speech, has evolved in such a way that the cost of submarine cables came down at a ratio of 10 to one with respect to previous costs," continued Alencastro, "if we consider the durability and cost of usage, it is comparable to that of the satellite system, therefore, the interconnection by means of cables is being developed, not only by Brazil but by the entire world, as an alternative which is economically valid and technically reliable."

Alencastro declared that the TELEBRAS goal is to have 7.7 million telephones in operation in the country by the end of the year.

By 1981 the Secretariat of Planning of the Presidency of the Republic (SEPLAN) has already decided that the telecommunications sector will be the least discriminated against and that a large part of the money of the National Telecommunications Fund (FNT) will be allocated to that sector.

8908
CSO: 5500

BRIEFS

NEW RADIO STATION--The president of the Brazilian Radio Broadcasting Company today inaugurated a Radio Nacional station in Cruzeiro do Sul. [PY122127 Brasilia Domestic Service in Portuguese 2200 GMT 12 Sep 80]

CSO: 5500

NETWORK OF RADIO STATIONS TO SERVE PROVINCES

Cairo AL-AHRAM in Arabic 19 Jul 80 p 6

[Article by Mustafa al-Damrani: "Broadcasting System To Cover Every Spot on the Map of Egypt"]

[Text] For the first time in Egypt, 16 regional radio stations will be constructed to cover all governorates of the republic [see map on following page]. The construction of 10 stations will start by the end of this year, and will take 5 years to complete. This will strengthen the role played by these stations in furthering comprehensive development in the regions, in keeping with the total independence which President al-Sadat has given to the various provinces.

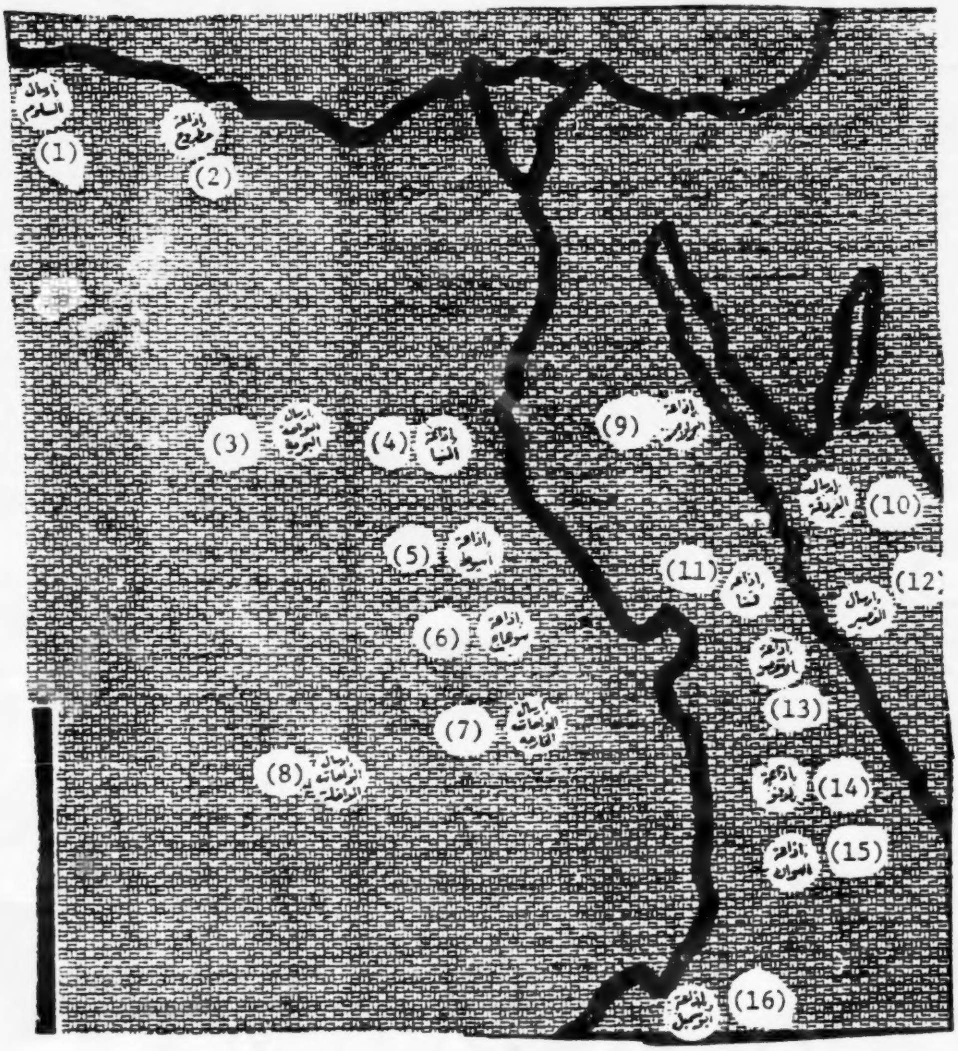
What is the full story of these stations and the methods of financing them? What are the construction priorities, and will each governorate have a regional station, or will there be a regional station for more than one governorate?

Also, what is the connection between these stations and the mother station in Cairo? And what programs will these stations carry compared with the programs presented by the Cairo station?

Safwat al-Sharif, chairman of the board of directors of the Radio and Television System, says that "in light of the directives of President al-Sadat on strengthening broadcasting so that the voice of Egypt will reach the most remote village and hamlet, we decided to plan that our regional radio stations should have two objectives. First, they would be relay stations to help strengthen transmission, so that the mother station could reach far places of the countryside. At the same time, they would be regional stations reflecting the activities of the region, promoting its daily life and helping to achieve its progress. We will, thereby, have saved time by accomplishing two objectives simultaneously."

Safwat al-Sharif goes on to say: "The new plan of action which is now under way involves the construction of 16 regional stations, 10 of which will be built over the next 5 years."

[Map of Planned Network of Regional Radio Stations]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Key:

1. Al-Sallum
2. Matruh
3. Al-Bahriyah Oasis
4. Al-Minya
5. Asyut
6. Sawhaj
7. Al-Kharijah Oases
8. Al-Dakhilah Oases
9. Red Sea
10. Al-Ghardaqah
11. Qina
12. Al-Qusayr
13. Luxor
14. Idfu
15. Aswan
16. Abu Sunbul

With regard to the sites of these stations, the plan includes both Upper and Lower Egypt. Opportunity in Upper Egypt with regard to the construction of these stations is great, because work is now under way on strengthening the stations which transmit the General Program, the Koran and the People Program. This provides an opportunity to utilize [unused resources] after the strengthening operation is completed in the construction of the regional stations in Upper Egypt."

The chairman of the board has sent urgent letters to all governors in the republic on taking the initiative in serving the national and regional objective of constructing regional stations by setting aside the necessary land for these stations. The letter contains their construction, stating that the land should not be more than 5 km from the center of the provincial city, and should be a good site which would facilitate hooking up public utilities.

The system will send teams of radio engineering experts to the governorates which hasten to respond to the chairman of the board and which want a regional station in their province. The team will inspect the site, judge its suitability and draft the designs for the new station. It will then submit its report to the chairman of the board of directors on the suitability of the site, so that a start can be made in arrangements for implementation. A timetable will be laid down for installation of the antennas for these stations.

The system will install the equipment required for construction of the station after approving the decision of the team on the suitability of the site for construction of a regional station in the governorate. Priority will be given to the governorate which is most responsive to the chairman of the board of directors.

Increasing the Independence of Local Government

Safwat al-Sharif says: "Establishment of these stations will serve a specific philosophy ultimately aimed at accomplishing the hopes of the president about the independent character of local government and the achievement of comprehensive regional development. This philosophy has now become clear in the reorganization of the state, since the president has given the governors all necessary powers and resources of the governorates, so as to marshal all their capabilities toward reconstruction and prosperity in the climate of democracy presently enjoyed by the country."

With regard to the nature of these stations, Safwat al-Sharif says: "They will not be central stations in the usual sense of the term, but will be a product of the environment, addressing themselves to local society and the various segments of the populace in a manner adapted to their culture, customs, traditions and the nature of local work. These stations will differ from one governorate to another, from an agricultural governorate to an industrial governorate, from a governorate with a high educational level to one where there is a great deal of illiteracy, from a society where women use makeup to one where they are still veiled, and from a society with a high artistic level to one which has an illustrious historic cultural background.

These stations will be characterized by their ability to adapt themselves to the society of the region--stations of a new type which do not carry a one-sided media message, but are able to communicate with the man in the street in the region and motivate him to take part in the decision making process.

These stations will combine mass and individual communication. The citizen will hear himself on them, since they will ultimately express his problems, his hopes and his pains, and propel him toward a better future. They will provide an opportunity to play up the talent available in the rural areas in various spheres of life. The talents can glitter on the regional stations and even surpass those of the main station in Cairo in the areas of ideas, literature, art, economy, law, agriculture, industry, etc. In fact, there will be competition between these stations and the mother station in discovering new talents and in the various aspects of the arts which they will present to the masses.

Studies prepared in this regard suggest the construction of a major regional station to be called "Central Delta Regional Station." Its range would cover the governorates of al-Gharbiyah, al-Minufiyah, Kafr al-Shaykh, al-Buhayrah, al-Daqahliqh and Damietta. It would carry 18 hours of programs daily. These would be distributed equally among the 6 governorates, so that each governorate would have 3 hours of programs dedicated to it. These special programs would be channeled through the Central Radio Coordination Office whose experts would set the proper timing of each governorate's programs.

Studies and reports also suggest the possibility of combining two governorates for coverage by 1 station. The two governorates would join hands in drawing up a joint plan for programs beamed to them. This idea would apply to adjacent states. Each station would still have 3 hours of special programs dedicated to it.

The plan also contemplates construction of a major regional radio station in Lower Egypt which would serve the 5 governorates of al-Jizah, al-Sharqiyah, al-Qalyubiyah, Bani Suwayf, and al-Fayyum [al-Jizah, Bani Suwayf and al-Fayyum are in Upper Egypt]. It would carry 15 hours of programs which would be distributed so that each governorate would have its share of 3 hours of special programs.

The plan leaves it up to the governors to decide that each governorate should have its own station, if they do not favor the idea of a major station. The chairman of the board of directors says: "In this regard, the Radio and Television System does not at all object to the idea of establishing a station in each governorate, if the governor provides all necessary facilities to do so to the system. This is especially so, since our objective is that each governorate should have a station, if possible."

The plan seeks to establish seven regional stations in Upper Egypt in al-Minya, Asyut, Sawhaj, Qina, Naja' Hammadi, and Aswan and New Valley. The latter will serve al-Khariyah, al-Dakhihah and al-Bahriyah regions and Baris. There will also be two major stations, the first in the Red Sea governorate, serving the areas of al-Ghardaqah, al-Qusayr and Ra's Gharib, and the second in al-'Arish, serving the Sinai areas.

The Link With the Mother Station

With regard to the link between the regional stations and the mother station in Cairo, Safwat al-Sharif says: The plan is for a link between these stations and Cairo, so that there will be no isolation after construction of these stations. In fact, the plan calls for a sort of tie-in through allocation by the mother station of certain programs for broadcasting by the regional stations. By the same token, some regional programs will be carried by Cairo. In fact, all these stations can join the wavelength of the mother station in Cairo on national occasions or for important events. Moreover, the regional stations will have to avail themselves of the expertise of the mother station with regard to policies, planning, operations, and the social news portion of news programs.

The power of the central station in Cairo will be increased on all wavelengths so as to reach the various regions, so that their people can learn the ideas of Cairo, and so that regional station workers may be able to adapt ideas they like into their own broadcasts. The station of the people will be the central station with regard to the regional stations, because its programs address themselves to all segments of society in the various provinces of Egypt.

8389
CSO: 4802

LM ERICSSON, PHILIPS SHARE IN PHONE NET CONTRACT

Stockholm DAGENS NYHETER in Swedish 22 Aug 80 p 29

[Report by Mats Hollgren]

> [Text] LM Ericsson's big telecommunications project in Saudi Arabia has now grown to where the orders amount to nearly 17 billion kronor. When the first order was received in the beginning of 1978 the amount was about 9 billion kronor.
>
> "We are counting on the amount of the orders increasing still further during the next few years," Håkan Ledin, vice manager of LM Ericsson, tells DAGENS NYHETER.

It is LM [Ericsson] and the Dutch firm of Philips that, together, have gotten that giant order to expand and modernize the telephone net of the oil country Saudi Arabia.

There are several explanations for the increase in the amount of the order. After the original order was given, final planning showed that the costs had risen by a good 3.5 billion kronor.

Early in the summer of 1980, however, there was an increase in the number of lines ordered from 500,000 to 770,000. That increased the amount by nearly 2.5 billion kronor.

The work in Saudi Arabia has gone according to plan, and in certain sectors deliveries are ahead of schedule. In May of this year Saudi Arabia adopted a new, very comprehensive 5-year plan. In the plan nearly 30 billion kronor was reserved for telecommunications.

"A great deal of all that will go to Philips, but a bit of it should come to us, too," says Hakan Ledin. The increase in the Saudi Arabian orders does not mean that LM Ericsson plans extensive changes and concentration on manufacture in Sweden. As DAGENS NYHETER reported earlier, at LM they are planning to cut down by about 1,800 by 2,000 jobs during the next 5 years.

8815
CSO: 5500

BRIEFS

'PANA' POOL OPERATIONS--Dar es Salaam, 22 Sep (AFP)--The proposed PAN-AFRICAN NEWS AGENCY (PANA) will start operations next January with an East African news pool centered in Khartoum, the Tanzanian news agency, SHIHATA, said Sunday. It quoted a technical official of the SUDANESE NEWS AGENCY (SUNA) as saying SUNA would initially supply the necessary telecommunications equipment and teletype operators to the pool's 11 member countries--Sudan, Kenya, Ethiopia, Somalia, Uganda, Djibouti, Seychelles, Madagascar, Mauritius, the Comoros and Tanzania. The official, Mohamed Othman, said PANA would begin operating continent-wide by the middle of next year. [Text] [AB220713 Paris AFP in English 0642 GMT 22 Sep 80]

CONGO-ZAIRE MICROWAVE LINK--Comrade Florent Tsiba, member of the Political Bureau and minister of information, posts and telecommunications, last night returned home from Kinshasa, Zaire, following a 24-hour visit during which he had discussions with his Zairian counterpart. The following final communique was published in Kinshasa yesterday at the end of Comrade Tsiba's visit. On 11 September 1980, the Zairian state commissioner for posts and telecommunications, Citizen Tokwaulu Bolamba, and the Congolese minister of information, posts and telecommunications, Comrade Florent Tsiba, agreed on the establishment of a microwave telecommunications link between the Republic of Zaire and the People's Republic of the Congo as well as on the maintenance of this telecommunications system. The inauguration of this link between the two republics [few words indistinct] will take place on 2 October 1980. [Excerpt] [AB161452 Brazzaville Domestic Service in French 1245 GMT 12 Sep 80]

CSO: 5500

BRIEFS

UNESCO DEVELOPS BENIN PRESS AGENCY--Cotonou, 16 Sep (AFP)--Reports from Cotonou indicate that a mission of UNESCO experts led by Mr Claude Onombo of the Communication System Development Division visited Benin from 12 to 15 September. The mission, which includes Mr Anim, a UNESCO expert and former director of the Ghanaian Press Agency and Mr Lieser, communications engineer at the telecommunications office of the Federal Republic of Germany, came, within the framework of a vast joint UNESCO-FRG project, to carry out an on-the-spot study of the possibilities of developing the Benin Press Agency (ABP). According to Mr Onombo, the project will have to begin in January 1981, for the funds are already available. It is estimated that UNESCO will help the ABP train its personnel for a period of 3 years in technical and editorial sectors. It will also supply additional material for the agency's equipment. The mission, which had earlier on visited Congo, left Monday evening for Mali. [Text] [AB170616 Paris AFP in French 1830 GMT 16 Sep 80]

CSO: 5500

SATELLITE TO LINK COUNTRY WITH REST OF WORLD

Kampala UGANDA TIMES in English 29 Aug 80 p 4

[Article by Eva Lubwama]

[Text] Uganda will be linked direct to all parts of the world by telephone, telex and television through Mpoma Earth Satellite now in its final stage.

Situated near Mukono about 14 miles from Kampala, the final figure of costs is anywhere between 140m/- and 150/- million shillings.

Communicating through the Atlantic Ocean, it is one of the most modern structures in Africa for telecommunications.

Touring the massive structure, project manager Mr. T. Satu said that the electric construction is done by Nippon Electric Company from Japan which supplies the electrical experts and is responsible for all the technical work.

Concrete construction is done by Roko Construction who import in everything needed for work except sand and stone.

The disc weighs 300 tons of steel and is supported on a base of 400 tons of cement and stone. The disc itself costs one-third of the total cost.

It will be rotating through 270 degrees vertically and a much smaller degree horizontally with the help of bull-gears and motors.

It is expected to be ready by December. The chief engineer Uganda Posts and Telecommunications, Mr S.E.K. Mbaabali said that it would link Uganda to all parts of the world through telephone, telex and television.

An international exchange has already been brought in and with another cost of 3m/- shillings there will be direct international call subscriber's facilities.

The satellite has a total capacity of about 150 circuits compared to the present six we are using through Kenya.

There would be five big channels to USA, Britain, Germany, Italy and France and a sixth one for television. London would have 11 circuits.

The whole structure operations are highly automated. It would require only 18 engineers to man it through Video systems and detectors which can display any failure instantly.

In case electric power from the Uganda Electric Board is cut off, there are two automatic generators with power of 300 kilo volts each. They switch themselves on instantly when there is a power failure. A telephone conversation or television picture cannot be interrupted at all.

Already 16 Ugandans have been trained in Japan to man the satellite.

Mbaabali said that the satellite will be generating about 200m/- shillings a month from internal services while the telex is also expected to be bringing in another 200m/- shillings a month. International calls would be generating foreign exchange.

The work began in 1977 when it was found out that over dependence on Kenya was unhealthy for Uganda.

It is ideally situated not far and not very near the city. It is near a main road where electricity and water are available, plus a vast area for development and food.

Among the facilities going to be provided for workers on the satellite are housing ranging from simple one-roomed houses to top executive houses. There will be a nursery school, a restaurant, clubhouse, guest rooms, a grocery and a football pitch. Expatriates are to be housed in self-contained flats estimated to cost 5m/- shillings.

The satellite in Arua is to be moved to Kampala to be used as a live station for training purposes. It would be the only one of its kind in Africa and it is to be open to all African countries for training their personnel.

The one in Kololo will be turned into an international one through a contract with the United Nations.

CSO: 5500

'REUTER ' TO TRAIN 'ZANA' STAFF MEMBERS

Lusaka TIMES OF ZAMBIA in English 8 Sep 80 p 2

[Text] REUTERS news service has offered to train three Zambia News Agency (ZANA) staff at Nairobi institute, Information and Broadcasting Minister, Mr Mark Tambatamba, announced in Lusaka yesterday.

He was speaking at Lusaka International Airport on arrivel from West Germany where he and Elections and Publicity Sub-Committee chairman, Mr Bob Litana, recently attended a meeting at the invitation of the Freiderick Neuman Foundation.

Mr Litana, is expected to arrive today.

Mr Tambatamba said the meeting was attended by countries where the foundation was carrying out projects, such as the establishment of journalism school in Zambia.

After the West German meeting, he went to London where he had "useful" discussions with REUTERS officials.

REUTERS had promised him two more places for short courses before the end of the year for working journalists from ZANA, he said.

The courses would go a long way in improving the performance of ZANA staff, Mr Tambatamba said.

"But this does not mean that training will be restricted to ZANA staff only. I hope that when we approach REUTERS again next year, they will offer us more places to include other reporters from the TIMES OF ZAMBIA and ZAMBIA DAILY MAIL," he said.

In May, ZANA and the German Democratic Republic news agency ADN signed an agreement for the exchange of news between them.

CSO: 4420

SATELLITE COMMUNICATIONS PLAN REPORTED

Salisbury THE HERALD in English 11 Sep 80 p 3

[Text]

THE Government had plans to set up an Earth station that would link Zimbabwe with other nations via a satellite, the Deputy Minister of Posts and Telecommunications, Roads and Road Traffic, Dr Naomi Nhiwatiwa said yesterday.

She said in an interview that a number of companies in Japan, West Germany and other countries had already been approached to help establish the station.

The move would boost the country's communications links with the rest of the world and reduce Zimbabwe's dependence on South Africa.

"It will also mean that communications services within the country—radio, television, telephones and telex — would be greatly improved," said Dr Nhiwatiwa.

The Government had embarked on a massive programme to grade more than 4 000 km of Zimbabwe's roads in the rural areas and her Ministry had 15 vacancies for civil engineers.

There was also a shortage of 21 vehicle inspectors — a situation which made the Government's task of ensuring that all cars were roadworthy "very difficult".

As part of the Government's policy of black advancement, her Ministry was searching for Africans who would fill these posts and others at senior level.

She attacked the living conditions of black workers, mainly those who serviced roads, saying they were depressing, as people were put up in "cages . . . very little tin houses".

"We have asked our permanent secretary to look into this issue very quickly and we expect that he will be reporting to us without delay."

There was also an urgent need to improve the health services for these employees, some of whom stayed in forests where there were no clinics or any such facilities.

The Minister stressed the importance of creating a sound communications and transport system throughout the country if the fruits of development were to reach all Zimbabweans.

CSO: 5500

BRIEFS

SATELLITE STATION INAUGURATED--This afternoon, President Kiprianou inaugurated the Makarios satellite earth station at Kakoratzia [near the 23d milestone on the Nicosia-Limassol highway]. In his speech, Kiprianou expressed particular pleasure at having the opportunity to inaugurate and officially open the station and congratulated the Cyprus Telecommunications Authority [CYTA] for its continuous efforts to improve telecommunications. He said: Our outstanding people have proved that, even under adverse conditions, they are struggling for progress. Kiprianou stressed that it was in the interest of all people and the state in general for the struggle to continue, no matter how difficult it might be, because nobody knew how long it might take for a lasting and just solution of the Cypriot problem. The president of the republic reiterated: We are not prepared to sacrifice substance for an early solution of the problem, endorse the faits accomplis or sell out our people's rights. He said: We are passing through difficult times; therefore, let us not add the division of our people to this. Mr Kiprianou stressed that at such critical moments, the people's concord constituted the most primary prerequisite for the success of the struggle against unacceptable solutions. The president of the republic concluded: I call on all people to continue the struggle united and confident that we shall save our country and hand over to the coming generations a free Cyprus in which all its inhabitants will live united without Green Lines and Attilas. [Excerpt] [NC121842 Nicosia Domestic Service in Greek 1630 GMT 12 Sep 80]

CSO: 5500

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JPRS 76593

9 October 1980

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 134

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JPRS 76593

9 October 1980

WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 134

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BRIEFS

DPRK-PRC BROADCASTING AGREEMENT--Beijing, September 25 (KCNA)--An agreement on cooperation in radio and television broadcasting between the Radio and Television Broadcasting Committee of the DPRK and the Chinese Central Broadcasting Administration was signed in Beijing on September 25. The agreement was signed on our side by Kim Si-hak, chairman of the Radio and Television Broadcasting Committee of the DPRK, and on the opposite side by Zhang Xiangshan, director of the Chinese Central Broadcasting Administration. [Text] [SK262257 Pyongyang KCNA in English 2203 GMT 26 Sep 80]

TELEX WITH ALASKA, LIBERIA--Kuala Lumpur, 29 Sep (AFP)--Malaysia will have direct automatic telex links with Alaska and Liberia from Wednesday [1 October], according to a statement from the Energy, Telecommunications and Posts Ministry today. [Text] [BK300525 Hong Kong AFP in English 1335 GMT 29 Sep 80]

DPRK, SEYCHELLES SIGN ACCORDS--Pyongyang September 23 (KCNA)--An agreement on news exchange and cooperation between the Korean Central News Agency and the Seychelles News Agency and an agreement on cooperation in radio and television broadcasting between the Radio and Television Broadcasting Committee of the DPRK and the Ministry for Education and Information of the Republic of Seychelles were signed in Pyongyang on September 22. The agreements were respectively signed on our side by personages concerned Kim Song-kol and Han Kwang-hak and on the opposite side by James Michel. [Text] [SK230409 Pyongyang KCNA in English 0403 GMT 23 Sep 80]

TURKEY, PRC TELEX COMMUNICATIONS--Ankara, September 26 (XINHUA)--Turkey yesterday started its fully automatic telex communications with China and several other countries, according to a statement issued here today by the Turkish Communication Ministry. Among the countries that were newly linked to Turkey were three Asian countries, five African countries and two Latin American countries. Turkey already had telex communications with the United States and several European and Middle East countries. [Text] [OW261522 Beijing XINHUA in English 1507 GMT 26 Sep 80]

'SLBC' AID FROM 'DEUTSCHE WELLE'-- Under an agreement signed between the Sri Lanka Broadcasting Corporation [SLBC] and DEUTSCHE WELLE, the Federal Republic of Germany has set aside a sum of approximately 12,000,000 German marks for the development of radio broadcasting in Sri Lanka. The extensive project will cover the construction of new stations, including 13 new transmitters, in Kantalai, Ambawela, Mahiyangana, Ratnapura and Kirimediyakanda and the extension of stations in Jaffna, Mannar, Amparai, Kandy, Maho and Weeraketiya. In addition technical personnel from the SLBC will be sent to Germany for training. [Text] [BK290623 Colombo SUN in English 17 Sep 80 p 1]

CSO: 5500

ASIAN TELECOMMUNICATIONS NETWORK BEING SET UP

Calcutta THE STATESMAN in English 25 Jul 80 p 9

[Text] New Delhi, July 23--An Asian telecommunication network is being set up for implementation of schemes of regional links and upgrading of domestic routes. The network, when completed, will link ASEAN countries with Turkey through India, Pakistan and Iran utilizing various methods of transmission such as submarine cable, microwave radio relay, coaxial and satellite links.

Even after establishment of the network, which is being set up under the aegis of the Economic and Social Commission for Asia and the Pacific and the International Telecommunication Union, some countries, such as Burma, will have to be brought into the regional network.

This new step has been made possible following the establishment of the Asia Pacific Telecommunity under ESCAP in May 1979. The International Telecommunication Union, a U.N. agency, and an apex body on international regulations on telecommunications, provides for the formation of regional organizations of this kind. The Asia Pacific Telecommunity, which has 17 members, including India, is on the lines of the European Conference of Posts and Telecommunications, Arab Telecommunication Union, and the African and Malagasay Postal and Telecommunication Union.

The objectives of the telecommunity are broadly to correlate planning and development programmes within the region to meet future requirements and to strengthen the regional telecommunication network.

The Asia Pacific Telecommunity, which will work closely with the ITU, UNDP and ESCAP, will review the progress of the Asian telecommunication network. The general idea is to improve telecommunication so that the countries of the region could come closer.

One of the functions of APT is to provide technical cooperation on a regional basis to help the growth of telecommunication among the member countries. In this context, India, with its own programme for domestic telecommunication via INSAT satellite, will provide communication links between the remotest corners of the country and the major centres of the Asia Pacific region.

This year's programme of the Asia Pacific Telecommunity includes collection of data on national networks on such aspects as quality of service, present status and future programme of development of rural and remote areas and new telecommunication technologies.

CSO: 5500

COMSAT APPLE REPORTED ON PAR WITH INTELSAT

Madras THE HINDU in English 19 Jul 80 p 8

[Article by N. S. Sachitanand: "Comsat: India's Proven Capability"]

[Text]

THERE are satellites and satellites. There are the simple ones which just go round and round the earth and say "beep" to inform their makers that they are hale and hearty. There are the prying ones which use infra-red scanners and high resolution telescopes to see what you are doing in your backyard. Then the meteostats keep a "weather" eye on the goings on in the earth's atmosphere and feed you with those whirls studded cloud photographs. The lazy ones are content to drift around the earth and bounce back signals sent to them. There are the "scientists" who peer at the far heavens through X-ray eyes. The latest addition are the "killers" which keep taking pot shots at the nosey ones with high-powered laser beams.

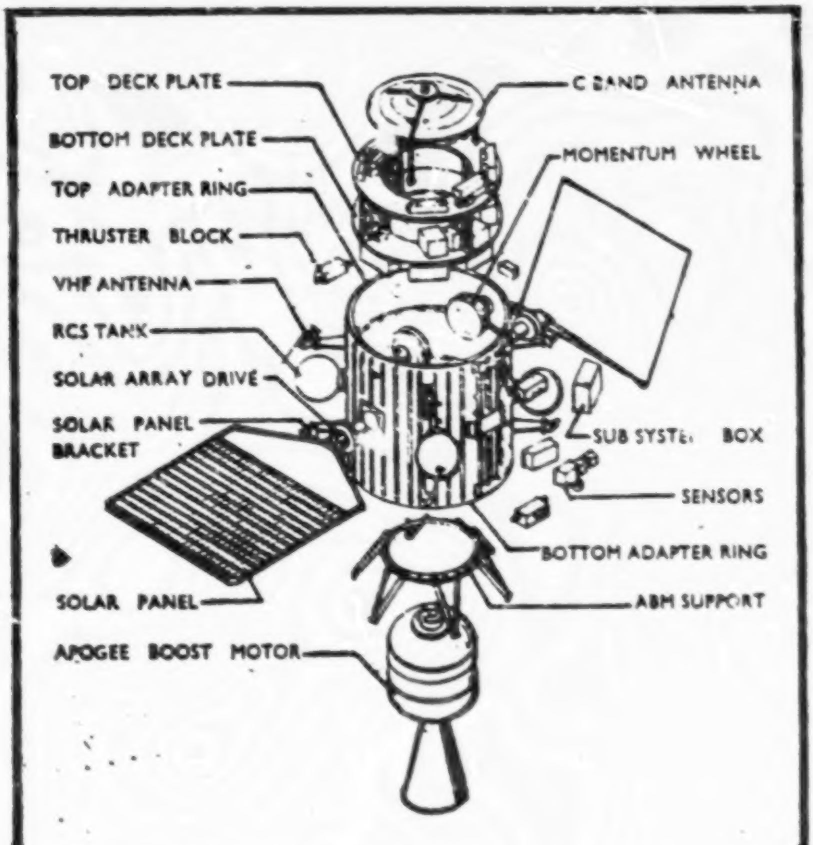
And then there is the 'Comsat'—a space age neologism for communication satellite—a device that has revolutionised long distance communications broadcasting and data transfer, a technology that has made the world shrink drastically, a means by which you can talk to your cousin in New York over the phone with much greater clarity than you can to your neighbour next door.

Among the satellite types, the Comsat is one of the most complex and difficult to make and put to use, since it carries its own propulsion system and has to be subjected to a series of deployments in orbit. As of today, only the U.S., USSR and a combined Franco-German team have shown the capability of conceiving, designing and making their own comsats. It is indeed remarkable that Indian space scientists have, within only five years of launching the first indigenously made satellite (the Aryabhatta), prepared for launch a comsat designed and made in India.

What is even more striking is that this comsat, code named APPLE (an acronym for Ariane Passenger Payload Experiment) is practically on par in technological complexity with the U.S.-made INTELSAT series of comsats now in commercial use for international civilian communications (though, of course, the size and capacity are much lower. Like the INTELSATs, the APPLE is a three-axis body-stabilised, geostationary communication satellite with its own apogee propulsion, altitude and orbit control systems.

The comsat is in essence a communications relay station in space. It has a device called a transponder on board which receives messages from earth stations, amplifies them and reroutes them back to the receiving earth stations. Since the satellite weight has to be as low as possible, the transponder cannot have a very high power rating. Therefore, to ensure that the radiated power of the on-board transponder is put to the best use, the satellite has to be "fixed" in space in such a way that the radiated beam from its communications antenna remains concentrated on the area the satellite is supposed to serve.

This "fixing" of the satellite in space is done in two ways. First it is put in what is known as a geostationary orbit, that is an orbit such that the speed of revolution of the satellite


TOP DECK PLATE
C BAND ANTENNA
BOTTOM DECK PLATE
MOMENTUM WHEEL
TOP ADAPTER RING
THRUSTER BLOCK
VHF ANTENNA
RCS TANK
SOLAR ARRAY DRIVE
SOLAR PANEL BRACKET
SUB SYSTEM BOX
SENSORS
BOTTOM ADAPTER RING
SOLAR PANEL
ABM SUPPORT
APOGEE BOOST MOTOR

EXPLODED VIEW OF THE SATELLITE

around the earth is equal to the speed of rotation of the earth itself. This keeps the satellite "hovering" always over the same spot on earth. Such a geostationary orbit is achieved when the satellite is put into an equatorial orbit at about 36,000 km above the earth's surface.

Since it will require an enormous amount of rocket power to shoot a satellite straight off into such a high orbit, a launch vehicle is used to first place the satellite into a highly elliptical transfer or parking orbit.

In the case of the APPLE, the launch vehicle will be the Ariane, developed by the European Space Agency The Indian satellite will be riding as a central passenger between the CAT module at the bottom and the METEOSAT satellite at the top both of which belong to the ESA. The cylindrical configuration of the APPLE and the extra strengthening of its wall have been dictated mainly by the need to support the METEOSAT and by the dynamic envelope of the Ariane shroud.

The three satellites in one payload will be launched from Kourou in French Guiana. The previous launch date was September 1980, but due to some problems creeping in the Ariane the launch has been postponed to early 1981. The composite payload will be launched into a transfer orbit of 200 by 35,786 km. at 20° West longitude over the equator with an inclination of 10.5°.

Once the APPLE is in the nominal synchronous transfer orbit, the next task will be to get it into a geosynchronous or geostationary orbit. For this, the spacecraft will be first spun up to 60 rpm by means of firing thrusters using liquid hydrazine as propellant, which is stored in spherical titanium tanks. This spin is given to orient the satellite along an axis that is convenient to push it into the final geostationary orbit by firing the Apogee Boost Motor (ABM) that is fixed to one end of the satellite.

In the case of the APPLE, the ABM is a solid propellant rocket motor with an incremental velocity of 1532 metres sec developed at the Vikram Sarabhai Space Centre, Thumba. The timing of the firing of the ABM is very critical. It has to be fired when the satellite is just at the apogee of its transfer orbit.

After the comsat has been placed in a geostationary orbit another series of manoeuvres is performed to orient it in such a way that its communications antenna points directly at the geographical area on earth the satellite is supposed to serve. For achieving this, the APPLE will be first despun by firing the hydrazine thrusters in the reverse direction. The spin rate will be brought down to 10 rpm and the spin axis will be brought perpendicular to the sun line.

The spin rate will be further reduced to 0.5 rpm and the wing-like solar panels which are kept folded during launch will be deployed. (The two panels of the APPLE, which are rectangular sheets of silicon photovoltaic cells, convert incident sunlight into electricity and can yield 241 watts at the beginning of their life and 198 watts at the end). Once the solar panels are spread out, a sun tracking sensor will feed signals to a stepper motor fed by a 300 watt-hour nickel-cadmium storage battery and the motor will orient the panels normal to the sun.

The next step is for the satellite to lock on to the earth—what is known in space technology parlance as "earth acquisition." For this a special "Earth Sensor" obtains the position of the earth with respect to the satellite by picking up the earth's luminosity. Signals from the Earth Sensor are fed back to a device called the Momentum Wheel whose acceleration or deceleration alters the orientation of the satellite's pitch axis. The orientation of the other two axes—yaw and roll—are controlled by the hydrazine thrusters.

The "attitude" of the satellite is controlled by the three-axis body stabilisation in such a way that the satellite is in the normal mode, that is, it keeps pointing directly at the Indian sub-continent. During the two years designed life of APPLE the attitude control system described above will keep the satellite on its station (102° E longitude) within + 0.1° inclination and East-West drift. Once the satellite is in position, its testing and use can begin.

The easier way to make a satellite like the APPLE is to import all the subsystems and just fit them together in the country. The tougher but more beneficial method in the long run is to develop indigenous technology to make the subsystems. Once the know-how and infrastructure are developed within the country making the next generation of bigger application satellites is far easier. There is also the advantage of cost. Since most of the subsystems are custom-made foreign suppliers will charge fancy prices. For example, an earth sensor made indigenously may cost around Rs 10 lakhs to Rs. 15 lakhs, whereas if it is bought abroad, it might be priced over Rs. 50 lakhs.

Then again, by designing and making the subsystems within the country, our engineers and scientists gain tremendous confidence in handling them and in troubleshooting when problems with them occur.

One must not also forget the spinoff benefits that accrue to other sectors of industry from developing technology for spacecraft. For these and other good reasons, the Indian Space Research Organisation chose the second method for making APPLE.

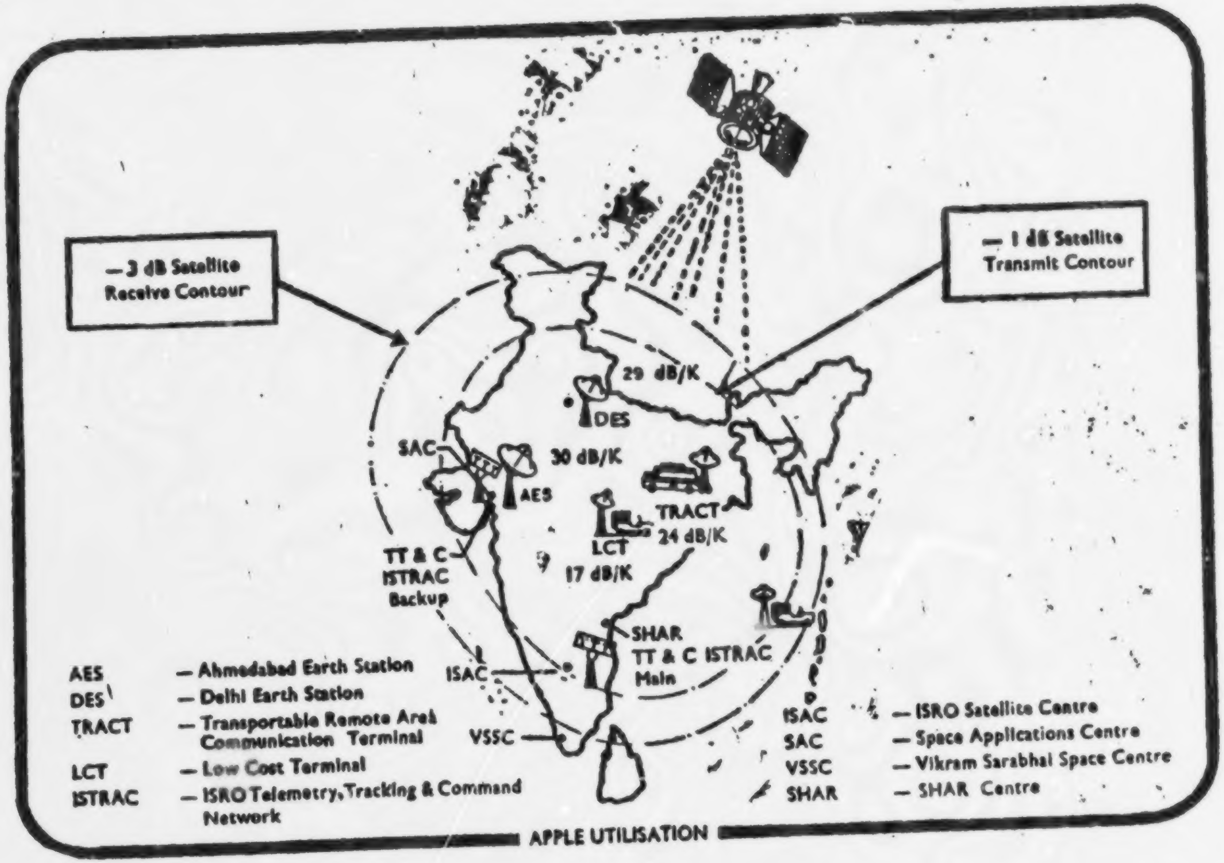
Some of the technological firsts (for the country) associated with the making of the APPLE are:

(1) Heavy magnesium castings by DMRL, Hyderabad;

(2) Gold plating of magnesium by NAL, Bangalore;

(3) Manufacture of aluminium honeycomb deck plates of space quality by HAL, Nasik;

(4) Apogee Boost Motor, Hydrazine Reaction Control System, Momentum Wheel, Honeycomb structured C-Band antenna of carbon fibre reinforced plastic, automatic spring loaded solar array deployment mechanism—all from VSSC, Thumba;



— 3 dB Satellite Receive Contour
— 1 dB Satellite Transmit Contour
29 dB/K
DES
SAC
30 dB/K
AES
TRACT
24 dB/K
LCT
17 dB/K
TT & C
ISTRAC
Backup
SHAR
TT & C ISTRAC
Main
ISAC
VSSC
AES — Ahmedabad Earth Station
DES — Delhi Earth Station
TRACT — Transportable Remote Area Communication Terminal
LCT — Low Cost Terminal
ISTRAC — ISRO Telemetry, Tracking & Command Network
ISAC — ISRO Satellite Centre
SAC — Space Applications Centre
VSSC — Vikram Sarabhai Space Centre
SHAR — SHAR Centre

APPLE UTILISATION

(5) C-Band transponder by SAC· Ahmedabad;

(6) Printed circuit boards with lime thickness of 1 32" by BEL and Hegde & Golay· Bangalore;

(7) Thermal paints and optical solar reflector by ISAC, Bangalore;

(8) Earth sensor by ISAC, Bangalore.

Besides the development of the above items, the making of APPLE also involved the setting up of entirely new facilities for spacecraft testing such as a four metre dia. thermovac at ISAC in which the vacuum and temperature conditions of deep space are simulated, a test facility at SHAR which was used to test the firing of the Apogee Boost Motor under high vacuum conditions. a dynamic balance table at ISAC which was used to check the balance of the satellite under spin and incorporated an electronic auto-collimator to show deviations as small as 0.01°, an accelerated life test chamber at ISAC in which ultra-high vacuums are created by means of turbo-molecular pumps, a static earth sensor test facility at ISAC and many other speciality devices.

Of course not all the components of APPLE would be made within the country due to lack of time for developing the needed technology. Thus items like solar panels, storage battery· travelling wave tube· titanium storage vessel for hydrazine and others had to be imported· But the technology for many of these is being developed in India and will be available for the next satellite.

The APPLE is not a commercial comsat like the INTELSATs. Its main mission goals, as the project manager, Mr. R. M. Vasagam, points out, are to gain indigenous capability in the design, development· fabrication, test· evaluation, injection into geo-stationary orbit, in-orbit management and utilisation of geostationary communication satellites· The satellite has only one transponder (with a fully redundant back-up) with a capacity for accommodating 900 two-way voice channels.

A number of telecommunications experiments are planned with the APPLE spacecraft in which the C-Band earth stations at Delhi, Madras and Ahmedabad and the transportable remote area as well as low cost terminals will be participating. The experiments will not be confined to telephony but also to radio and TV broadcasts and data transmission.

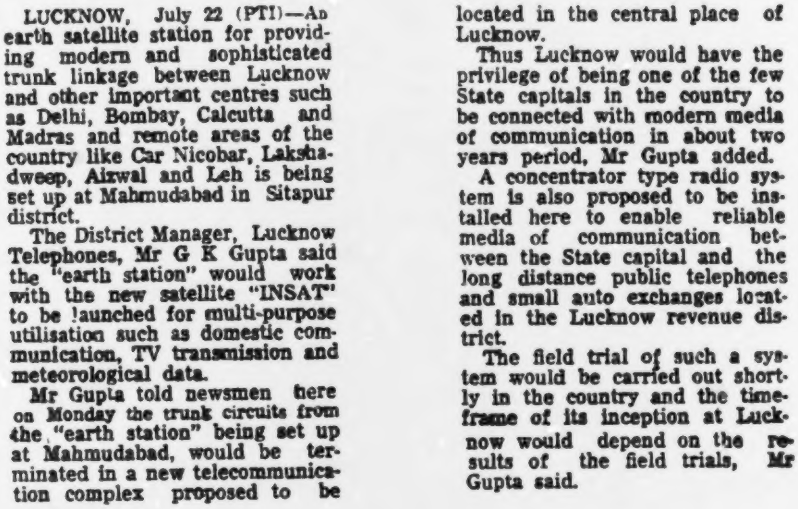
During the transfer orbit and three-axis stabilisation manoeuvres, the ISRO Tracking and Command Network (ISTRAC) will be responsible for tracking, telemetry and telecommand· with backup from earth stations at SAC, Ahmedabad, Kourou (French Guiana)· Carnarvon (N. W. Australia)· Malindi (Africa), La Reunion (Indian Ocean) and a mobile earth station at Suva (Fiji). All mission operations will be controlled from the APPLE Mission Control Centre at Sriharikota. Once the spacecraft becomes operational, ISTRAC will be responsible for on-orbit control of the spacecraft.

CSO: 5500

MANAGER TELLS LUCKNOW EARTH STATION PLANS

New Delhi PATRIOT in English 23 Jul 80 p 2

[Text]



LUCKNOW, July 22 (PTI)—An earth satellite station for providing modern and sophisticated trunk linkage between Lucknow and other important centres such as Delhi, Bombay, Calcutta and Madras and remote areas of the country like Car Nicobar, Lakshadweep, Aizwal and Leh is being set up at Mahmudabad in Sitapur district.

The District Manager, Lucknow Telephones, Mr G K Gupta said the "earth station" would work with the new satellite "INSAT" to be launched for multi-purpose utilisation such as domestic communication, TV transmission and meteorological data.

Mr Gupta told newsmen here on Monday the trunk circuits from the "earth station" being set up at Mahmudabad, would be terminated in a new telecommunication complex proposed to be located in the central place of Lucknow.

Thus Lucknow would have the privilege of being one of the few State capitals in the country to be connected with modern media of communication in about two years period, Mr Gupta added.

A concentrator type radio system is also proposed to be installed here to enable reliable media of communication between the State capital and the long distance public telephones and small auto exchanges located in the Lucknow revenue district.

The field trial of such a system would be carried out shortly in the country and the timeframe of its inception at Lucknow would depend on the results of the field trials, Mr Gupta said.

CSO: 5500

THREE NEW RADIO STATIONS PLANNED FOR ANDHRA PRADESH

New Delhi PATRIOT in English 16 Jul 80 p 5

[Text]

HYDERABAD, July 15 (PTI) — The Union Ministry of Information and Broadcasting has included three new radio stations and one TV relay transmitter in Andhra Pradesh in the Sixth Plan.

Union Minister of State for Information and Broadcasting Ram Dulai Sinha told PTI in an interview today that three new radio stations — Warangal, Tirupati and Rajahmundry — were included in the Sixth Plan besides a local level pilot station at Adilabad.

A Rs 40.00 lakh permanent studio would be set up for Cuddapah whose transmitter was proposed to be upgraded from 20 KW to 100 KW. A suitable site for the studio was already selected and acquired.

The setting up of a relay transmitter at Vijaywada to replay the programmes of Hyderabad television was one of the approved projects in the Sixth Plan, Mrs Sinha said.

A site on Kondapally hill, 20 KM from Vijaywada had been selected due to its natural elevation. The Ministry for Information and Broadcasting had approached the State Government for providing basic amenities free of cost as promised by the Chief Minister.

It was proposed to have a 10 KW transmitter with 150 m high tower, the radial service range of the transmitter was expected to be 110 kms covering 2,956 villages spread over an area of 36,000 kms. Total population expected to be covered was 60.53 lakhs comprising 16.50 lakh urban and 44.03 lakh rural population.

Mrs Sinha said the proposed permanent studio type I for Visakhapatnam was expected to be completed in the year 1982-83.

The proposed television studio will have built in provision for adding one more studio subsequently. The civil construction wing was entrusted with the task of developing the building plans, she added.

Referring to general complaints about the quality of programmes presented by the Doordarshan and All India Radio, Hyderabad, she said steps would be taken to improve the quality of the programmes.

She assured that suggestions for introduction of TV programmes for the entertainment of urban elite, news bulletin on TV and inclusion of Urdu programmes would be considered.

CSO: 5500

GOVERNMENT PLANS PARTIAL SWITCHOVER TO COLOR TV

New Delhi PATRIOT in English 16 Jul 80 p 5

[Text] THE Government envisages a two-phased programme for a partial switchover to an era of colour television in the country, reports UNI.

An official note says, it is proposed to provide for the transmission of films and ENG/EFP (colour codes) programmes in colour at the existing television centres in the first phase. The next phase would see one of the television studios being equipped for transmission of studio programmes in colour. The rest of the transmissions will continue in black and white for some time to come.

According to the official document, television centres along the border areas will receive priority in the matter of colour television.

The two-phased programme is estimated to cost Rs 34.30 crores.

The document says a considerable part of the transmission equipment available with the Doordarshan is colour-compatible. Only minor additions will be needed to enable this equipment to carry transmission in colour. The micro-wave links between Delhi, Bombay and Madras, Delhi, Jullundur and Srinagar and Delhi and Calcutta will also enable the relay of colour television programmes with minor modifications.

The programme production equipment in the studios will, however, have to be largely replaced by colour cameras and associated control and monitoring equipment.

Stressing the need for colour television in the country, the note says advantages of colour television over black and white in communicating information, entertainment and education have already led many developing countries to opt for colour television.

Phasing-out of black and white television equipment, availability of only colour equipment in world markets and research and development work being done only for colour systems are some of the other important factors driving home the need for the change over to colour television.

Moreover, the exchange of television programmes with other countries can take place only if India's television programmes are in colour. Tremendous advances have been made in other countries in the production of feature films and documentaries in colour with social themes.

Optimum utilisation of this material for the Indian television network is possible only if the transmission is changed over to colour.

According to the document, introduction of colour television is also expected to increase the advertisement revenue of Doordarshan as advertisements have more impact when telecast in colour.

CSO: 5500

BRIEFS

TELEVISION PLANS DISCUSSED--Madras, July 16.--A television relay centre, proposed to be set up at Kodaikanal is expected to be commissioned by 1982-83 and will help viewers in all the southern districts of the State from Thanjavur to Kanyakumari to pick up the programmes relayed from Madras. Giving this information here on Wednesday, the Union Minister of State for Information and Broadcasting, Mrs Ram Dulari Sinha, told newsmen that the teething troubles over acquisition of a site at Kodaikanal had been overcome with the State Government gifting the necessary land. Mrs Sinha said the site for the TV studio proposed in Trivandrum had been acquired. A transmitter had also been ordered and the project was expected to be completed by 1982-83. However, the scheme for Bangalore had not made any progress as no suitable site had been chosen yet. The Minister met the media officials in the city and discussed their problems including the sanction of adequate staff and construction of more quarters. [Text] [Madras THE HINDU in English 17 Jul 80 p 9]

TELEVISION RELAY STATIONS--Bhopal, July 19: The minister for information and broadcasting, Mr V. P. Sathe, told newsmen today that ten towns, including Bhopal, Indore and Gwalior, would be covered through relay stations on the microwave network in the first phase of the T.V. expansion programme. Though he could not say how long it would take to complete the programme, Mr Sathe said the feasibility of the project had been established. He added that limited financial resources were a major constraint in the early implementation of the programme. Mr Sathe deplored the "wire coverage" given in the press to incidents of rape, particularly those involving policemen. He expressed the view that these incidents were receiving "disproportionate" publicity. Referring to the developments in Assam, Mr Sathe said the people failed to appreciate fully the threat posed to the integrity of the nation. [Text] [Bombay THE TIMES OF INDIA in English 20 Jul 80 p 5]

CSO: 5500

HYDERABAD TELEVISION STATION--The Doordarshan Kendra at Hyderabad is to be upgraded with a permanent studio and relay transmission facilities during the sixth Plan period (1980-85), reports UNI. The Kendra has a ten Kilowat television transmitter set up under the SITE continuity programme in 1977. It already had a Base Production Centre for feeding programmes to the satellite during the ISTE experiemnt conducted during 1975-76. [Text] [New Delhi PATRIOT in English 11 Aug 80 p 8]

LOW-POWERED TRANSMITTERS DISTRIBUTED--The All India Radio has worked out a plan to provide 353 low-powered transmitters for each district in the country, reports UNI. Frequencies have been coordinated as part of this plan worked out under the aegis of the International Telecommunication Union. An official note says the implementation of this scheme would, however, depend on the availability of financial resources and relative priorities. [Text] [New Delhi PATRIOT in English 11 Aug 80 p 8]

IMPROVED COMMUNICATIONS WITH NONALINED--The government proposes to set up satellite and ground links with 11 world capitals to improve communication facilities in the nonaligned countries. This was stated by Information and Broadcasting Minister Vasant Sathe when he met a group of foreign correspondents in New Delhi. He said this will enable India to reach out to the redistribution centers in the nonaligned news pool independently over a stable channel. The foreign news agencies with which satellite and land links are to be established include TANJUG in Belgrade, IRAQI NEWS AGENCY in Baghdad, ANTARA in Jakarta and PRENSA LATINA in Havana. [Text] [BK270606 Delhi Domestic Service in English 0240 GMT 27 Sep 80]

CSO: 5500

REPORT ON PLA NAVY COMMUNICATIONS UNIT

OW280245 Beijing XINHUA Domestic Service in Chinese 0305 GMT 27 Sep 80

[Report by XINHUA correspondent Shen Yinggen and reporter Qiu Weimin]

[Summary] Beijing, 27 Sep (XINHUA)--The leading cadres of a long-wave communication station under a certain PLA navy unit have diligently studied modern communication technology and strived to become leading authority of the profession, thereby bringing about deep-going changes in the whole station."

Although some of the station's leading cadres joined the army during the war of liberation, they all possess the professional knowledge equivalent to a college graduate. These professional cadres have made continuous efforts in exploring the latest knowledge of their field.

"Thanks to the leading cadres' accomplishments in studying professional knowledge, the station has undergone the following four major changes:

"One, in performing their work in accordance with scientific law, the leading cadres have avoided giving arbitrary and impractical directions and bureaucratic practices. Last May when our country was preparing the experiment to launch the carrier rocket into the South Pacific Ocean, the station's leading cadres, in carrying out the task to establish communication with the ocean, went to the key working posts to work day and night with their staff members and exercise direct supervision and, using their professional knowledge and talents, overcame some complex technical obstacles in good time, thereby ensuring the successful completion of the task.

"Two, the station's modern equipment has been more effectively used along with the continuous elevation of the management level of the leading cadres. Based on the requirements of the station and the features of its equipment, the leading cadres have set up 16 sets of management system under which the station's tens of thousands of precision instruments, circuits and original parts are used in a rational and scientific way. The system has also ensured safety for the personnel on duty to work around high voltage conditions. There has been no major accident involving injury or death.

"Three, the leading cadres have paid more attention to cherishing, training and selecting talented people. In the past few years, the leading cadres have edited 27 kinds of teaching materials and 16 outlines for professional training and trained 154 technical cadres to serve not only the need of their own unit but also for other fraternal units and local people.

"Four, they have harnessed the masses' enthusiasm by paying more attention to giving full expression to democracy in scientific and technical discussion and research."

In the past few years, the station has achieved 24 major technical innovations that have been commended by the leading navy organ.

CSO: 5500

BRIEFS

NEW RADIO STATION--A new Radio Thailand station in Maha Sarakham Province was officially opened on 20 September. It has transmission power of 10 kilowatt on the am band. [BK260559 Bangkok Domestic Service in Thai 0530 GMT 20 Sep 80]

CSO: 5500

BRIEFS

HOLY MASS BROADCAST--The technical-organizational preparations for the transmission of the Holy Mass by radio have been completed. In compliance with the appropriate agreements the 1-hour Holy Mass will be broadcast every Sunday from the Church of the Holy Cross in Warsaw in the Krakowskie Przedmiescie Street over the second national program of Polish radio on long wave 1,500 meters, which is a frequency of 200 kilohertz; and also on medium and VHF. Polish Radio will broadcast over regional transmitters the frequencies on which one can hear the Holy Mass. The first transmission will take place tomorrow [21 September] at 0900. [Text] [LD200954 Warsaw Domestic Service in Polish 0930 GMT 20 Sep 80]

CSO: 5500

BRIEFS

TELECOMMUNICATIONS CONFERENCE--Santiago, Chile--Official representatives from nine countries of the Americas are attending here a conference called by the International Telecommunications Union (ITU). The ITU is sponsored by the United Nations and the conference that is being held in Santiago is attended by representatives from Argentina, Brazil, Colombia, Costa Rica, Cuba, Chile, Mexico, Peru and Surinam. [PY022020 Paris AFP in Spanish 2342 GMT 1 Sep 80]

CSO: 5500

BRIEFS

TELEVISION NETWORK EXPANSION--During the annual meeting of the heads of the 24 television stations that make up the Bandeirantes Television Network, the chairman-director of the network, (Joao Georges Saadi), announced that the enterprise will invest approximately $25 million during the next 2 years in order to expand the network in Sao Paulo State and the rest of Brazil. [PY101459 Sao Paulo Radio Bandeirantes Network in Portuguese 1000 GMT 10 Sep 80 PY]

CSO: 5500

NATIONAL MICROWAVE, TELEVISION SYSTEM DESCRIBED

Havana GRANMA in Spanish 30 Aug 80 p 2

[Article by Jesus Mena]

[Text] At a time when two of our fellow countryment are completing their training in Star City in the Soviet Union for the Soviet-Cuban space flight planned as part of the Intercosmos Program, it is timely to speak about the development in certain areas of the communications media of our country, such as radiobroadcasting and international telecommunications services built during this 5-year period.

Before this joint space flight occurs with the participation of a son of the first socialist country in America -- a fact that will speak eloquently about the solid bonds of friendship and cooperation existing between the nations of Cuba and the Soviet Union -- it is fitting to recall that from the time of the triumph of the Revolution, our country has made serious efforts to expand and modernize its communications media, whose achievements were strengthened during the 1976-1980 period and for which we received the unselfish aid of our Soviet brothers.

Within this context, television occupies a prominent role, given the important place it has in culture, information and entertainment for our people.

In this field, in contrast to what happened previous to 1 January 1959, when television was used in keeping with certain commercial interests, serving those areas with the greatest purchasing power, such as the cities of Havana, Matanzas, Santa Clara, Ciego de Avila, Camaguey, Holguin and Santiago de Cuba, the Revolution decided to establish two national programs or channels (the current Channel 6 and Tele-Rebelde) and expand the service to the greatest amount of territory possible, using the equipment that existed at the time.

It was thus possible to extend the service to other cities and regions in the country, such as Pinar del Rio, San Cristobal, the Isle of Youth, Guantanamo, Baracoa, Moa and Nicaro, although some of these places had only one channel.

Already early in the 1970's, the situation had changed substantially in comparison with 1959 and without major investments. However, the resources available were aimed at meeting needs in areas still not covered or poorly served and at meeting the limited possibilities and obsolescence of the equipment making up the system as a whole.

In order to resolve existing difficulties resulting from the sending of the signal originating from studios in Havana to each of the transmitters set up in the country, from Pinar del Rio to Baracoa -- which at that time constituted the major problem and the reason why in over half of the territory enjoying the service, the quality of transmissions was poor or simply intolerable -- one of the directives of the First Congress of the party oriented work in four basic directions:

Planning, purchasing and installing a new main artery for the National Microwave Relay System, which would support national telecommunications services from Pinar del Rio to Santiago de Cuba, replacing the inadequate and obsolete means in use to date; extending television service to new areas and improving it in others, all on both channels; replacing equipment which, because of a lack of parts on the international market or as a result of deterioration, could not guarantee the quality of service; and the introduction of the technology needed to transmit in colors on Channel 6.

By mid 1977, the plan designed was basically completed, including the establishment of the National Microwave System costing nearly 7 million pesos and having a large capacity and high quality. Through microwaves, the system connects the main national centers from which, by means of secondary stations, information is distributed that corresponds to national telecommunications services (telephone, Telex, telegrams, radio, television and others), through local systems.

Basically, this main artery has sufficient capacity to meet the country's current needs and those of the immediate future, equivalent to 960 telephone channels, 2 video channels and 8 for programs accompanying video and those broadcast by national radio. The signals are two-way, from Pinar del Rio to Guantanamo.

The National Microwave System, with French technology, is made up of 27 stations or buildings with equipment, towers and antennas properly distributed over some 1,000 kilometers, stations set up as a chain connecting with adjacent stations. From the functional standpoint, quality is on a part with the best in the world and operations are guaranteed 99.99 percent of the time.

In practical terms, this means that both telephone calls and television signals or signals from any of the services transmitted from one corner of the country to another, will have optimum quality except for fractions of a second at the worst possible time.

For the television service in particular, this new artery has meant incomparable changes, but even where the interior of the country had facilities providing service previously, the signal given out by transmitters (video and audio) was inadequate, if not useless.

At the present time, the new chain makes it possible to obtain the same high degree of fidelity and clarity from one corner of the country to the other on both national channels and at the same time, the same facilities for two more programs in the opposite direction.

In order to take television to the Isle of Youth, a shunt was devised permitting the same high degree of quality on both channels.

Expansion of Television Service

The plan set up and completed during this 5-year period meant helping nearly half of all users in the country, enabling them to enjoy clear images and avoid the frequent and bothersome interruptions previously experienced.

With the installation of the new National Microwave System, the plan was also successful from the standpoint of quality and the addition of new areas covered.

While in 1975, between 85 and 90 percent of the country's population lived in areas where television service was received and for which purpose the system had 29 transmitters, in order to arrive at some 95 percent, it was necessary to increase the number to 55. In other words, the number of transmitters was nearly doubled because at this point, the areas not yet served are those with a low population density or small, isolated zones. But even in such zones, it was possible to extend the service except in certain instances.

The total number of transmitters purchased during the 5-year period was 33, of which 5 were used to replace an equal number that had been used for over 25 years. They were of American technology and for years, no spare parts had been available. The parts and components of these five were reserved to replace another 8 of the same technology still in use.

Other transmitters were used to complete both channels on the Isle of Youth, Guantanamo and Baracoa; at the Havana Libre Hotel, to improve reception in important areas of Plaza de la Revolucion; in Sandino, Cajalbana, Salon, Guines (only Channel 6), Cienfuegos, Trinidad, Sancti Spiritus, Nuevitas, Las Tunas, Bartolome Maso, Pilon, Chivirico and Yaguajay, the latter in the completion phase. At all these sites, it was necessary to build the buildings and antenna towers required.

Areas which in 1975 had absolutely no television service or which were inadequately served included Guane, Sandino, La Fe, Las Martinas, La Bajada, Mantua, Santa Lucia, La Esperanza, La Palma, La Coloma and Bahia Honda, in

Pinar del Rio; Guines (only Channel 6); Sancti Spiritus; Cienfuegos, Nuevitas, Tunas, Jobabo, Calixto, Manati and Puerto Padre, Las Tunas, Niquero, Media Luna, Campechuela, Yara, Bartolome Maso, Pilon and part of Manzanillo, in Granma; and Chivirico, Ocujal del Turquino and La Plata, in Santiago de Cuba. They now have both channels with optimum urban quality.

Another important task completed in this 5-year period, one which constitutes a success for our communications systems and workers in the sector, was that of providing all Channel 6 facilities with the proper equipment for transmission in colors. The channel now has such facilities from one end of the country to the other.

11,464
CSO: 3010

BRIEFS

AMMAN RADIO OPERATION--Jordanian broadcasting station sources have said that preparations are underway to transform the current Amman station into a popular local radio that will deal with all levels of the Jordanian society's activities. It will use direct contact with the people and will openly discuss social and development issues. This step is being taken because radio is the primary disseminator of development information and is easily accessible to all strata of society. A special board is expected to be created to direct the station, with the participation of responsible authorities from the departments of development, planning, national guidance, labor and education. The greater Amman station will begin transmission within the next 4 weeks and will work to project Jordan's activities and development plans abroad. [The greater Amman station was previously observed testing on 594 khz between July and August 1979] [Text] [JN242150 Amman AL-RA'Y in Arabic 23 Sep 80 p 24]

CSO: 5500

BRIEFS

ANA'S' FIRST ARAB TRANSMISSION--Aden, 22 Sep (ANA)--Najib Muhammad Ibrahim, member of the Central Committee and ANA director general, has stated that ANA's external Arabic transmission was successfully beamed yesterday to wide areas of the world. This step, he said, was in implementation of the resolutions of the First Congress of the Yemeni Socialist Party. It constitutes an important gain for all mass information media in our country. Through this transmission, he added, we will be able to disseminate widely most of the activities that take place in our country as part of the national democratic revolution. In a press statement today, the ANA director general pointed out that this success constitutes an important factor helping to intensify the effects of our political and ideological activities and to expose the activities of the imperialist and reactionary information media which are hostile to our Yemeni people's ambitions. This success also proves the successes scored by the workers of our country on the road of building the new progressive society under the leadership of the Yemeni Socialist Party. It is worth noting that the ANA experimental transmission in English began 2 weeks ago. It is beamed to the Arab Gulf, the Middle East, Europe and wide areas in Africa and Asia. [Text] [LD221734 Aden ANA in Arabic 1420 GMT 22 Sep 80]

CSO: 5500

YEMEN ARAB REPUBLIC

BRIEFS

SECOND EARTH SATELLITE--Brother Col 'Ali 'Abdallah Salih, president of the republic and commander in chief of the armed forces, this afternoon laid the foundation stone for the second earth satellite station in the southern suburbs of the capital, San'a'. On arrival he was received by brother Ahmad al-Ansi, minister of communications and transport, officials of the cable and wireless company, engineers and experts. Amid applause from the gathering, the brother president laid the foundation stone for the project. The brother president also inaugurated the seventh international telephone center of the cable and wireless company and held a telephone conversation with our embassy in Paris. He later toured various sections of the center. He also visited the training school of the company, unveiled the commemorative plaque of the project and toured the various sections of the school. [Excerpt] [LD280642 San'a' Domestic Service in Arabic 1200 GMT 27 Sep 80 EA]

CSO: 5500

NONALINED WAY OF BROADCASTING VIEWED

London WEST AFRICA in English 22 Sep 80 pp 1843, 1844

[Text]

THE NON-ALIGNED MOVEMENT, pioneered by the late President Tito of Yugoslavia, moved to West Africa early this month with its second general conference of the Broadcasting Organisations of Non-aligned Countries (BONAC) which was held at the OAU Conference Centre, in Freetown.

The general conference was preceded by the sixth meeting of the Committee for Co-operation of Broadcasting Organisations of the Non-aligned Countries, which reviewed achievements of the organisation since its first conference in Sarajevo, Yugoslavia, three years ago and drafted new plans for recommendation to the general conference.

Opening the two-day meeting of the Committee for Co-operation, Sierre Leone's Minister of Information and Broadcasting, Dr. Idris M. Fofana, recalled the first conference of the organisation at Sarajevo in 1977 when its founding fathers not only laid the foundations of co-operation on a long-term basis, but also identified priority issues, among which were the development of infrastructures on a national level, the training of personnel and in particular the introduction of television in countries where none existed. He catalogued the first Radio Festival in India, the forthcoming Folk Song Festival and seminar in India and the setting up of the programme bank in Malta as noteworthy achievements of the organisation, and suggested that these varied forms of co-operation illustrate the kinds of possibilities offered for the development of programme co-operation.

In his address to the opening session of the second general conference President Siaka Stevens said that BONAC was born out of the attitudes adopted, decisions taken and recommendations made by the fourth and fifth summits of the non-aligned countries in Algeria and Colombo respectively, to set up an organ within the Non-aligned Movement that would make information accessible to all nations, with the ultimate objective of the removal of all pervasive domination of the world information spectrum by the multi-national Western-based international news agencies.

Since then, he went on, valiant efforts had been made to reverse the process of the growing disparities between the developed industrialised countries and the Third World countries in the distribution of communication resources and the need for a free and balanced circulation of information.

President Stevens said that the new world economic order complemented the new information order or the North-South debate on communications and referred to the forthcoming 21st UNESCO General Conference in Belgrade later this month, at which consequences for a new information order will be in the centre of the debates.

He urged delegates to give priority during their deliberations to issues related to the content and flow of information, obstacles and disparities in communication potentials; as well as the need for concrete measures towards communication development, creation of infrastructure, training and research.

Sierra Leone's head of the media and director-general of the Broadcasting Service (SLBS), Mr. Joseph Findlay, in his speech said that non-aligned countries were not just passive fence-sitters seeking the best from Eastern and Western blocs or mere spectators in the arena of international politics, but initiators and actors in the cause of international understanding and world peace. He said that delegates' presence in Freetown was a re-affirmation that non-alignment is not just a slogan or a vague concept, but a dynamic instrument of international co-operation. Their goal was to consolidate the plans, objectives and strategies which have been identified and recommended by the committee for co-operation.

The conference, which was attended by 105 delegates from 38 countries and international organisations, adopted a number of "strategies" aimed at the development of and co-operation between national broadcasting organisations of non-aligned countries, international organisations and regional broadcasting unions.

Among these are:

- Securing a frequency spectrum allocation which will, regardless of the present-day economic abilities of individual countries to use the frequencies, allow each of the non-aligned and developing countries to cover their national territory and to establish a balanced broadcast information and programme exchange flow with other countries.
- Comprehensive study and research on the technical and economic aspects of the solutions most advantageous to them for traditional (earth) and sophisticated (satellite) dissemination of radio and television programmes with a view to reducing the risk of out-dated and economically unjustifiable broadcasting technologies, hardware and development designs being sold to them.
- Promotion of broad mutual co-operation among member broadcasting organisations in designing national broadcasting development; in choosing equipment; in extending technical and expert assistance in supervising the construction and commissioning of broadcasting facilities as well as in staff training.
- Standardisation of equipment; agreement on technical and technological standards and transfer of know-how and technology. This type of co-operation should contribute to better adjustment of equipment, to international programme exchanges, and to more efficient personnel training.
- Co-operation in training technical and programme personnel to ease the shortage of trained personnel, with emphasis on on-the-spot training (a significantly less expensive training approach) to allow the personnel to improve their knowledge in the normal course of their work. Extensive co-operation will be developed with UNESCO, with which joint training projects will be defined especially with regard to content and method of training and securing the necessary experts and resources for organising training.
- The creation and development of national news and information institutions as well as other forms of collecting and disseminating news and information, allowing authentic reporting with respect for the right of every country to develop along the road most suitable to it. BONAC will ensure comprehensive support to the co-operation of the news agencies of the non-aligned countries "so as to overcome effectively and as quickly as possible the deleterious impact of the existing monopoly of the large world information organisations".
- The development of a system of special radio and TV pools for news coverage of important events in the Non-aligned Movement.
- Exchanging radio and TV programme production teams.
- Opening correspondents' posts and a gradually expanding network of correspondents in the non-aligned and developing countries.
- Setting up programme banks for non-commercial exchanges of radio and television programmes. Member organisations will regularly inform each other of programmes available for exchange through the joint catalogue and through bilateral and multi-lateral co-operation.

- Developing various forms of co-operation in production of radio and TV programmes, including co-productions and assistance in providing specialised staff or technical resources.
- Developing a system of annual festivals of radio and TV programmes.
- The developing of co-operation among regional broadcasting unions, and more intensive co-operation with UNESCO.

The conference elected Mr. Joseph Findlay, Director General of SLBS and as chairman of the Broadcasting Organisations of non-aligned nations, for the next years. He will be assisted by his personal assistant and deputy head of programmes, SLBS, Mr. Sama Lenghor, who was elected Secretary General. The secretariat, in keeping with the practice of the non-aligned movement will be based in Freetown for the next three years.

The third general conference of BONAC is expected to be held in Cuba in 1983.

CSO: 5500

BRIEFS

'PANA' POOL TO BEGIN--Dares Salaam, 22 Sep (AFP)--The proposed Panafrican News Agency (PANA) will start operations next January with an East African News Pool centered in Khartoum, the Tanzanian News Agency, SHIHATA, said Sunday. It quoted a technical official of the Sudanese News Agency (SUNA) as saying SUNA would initially supply the necessary telecommunications equipment and teletype operators to the pool's 11 member countries--Sudan, Kenya, Ethiopia, Somalia, Uganda, Djibouti, Seychelles, Madagascar, Mauritius, the Comoros and Tanzania. The official, Mohamed Othman, said PANA would begin operating continent-wide by the middle of next year. [Text] [AB220713 Paris AFP in English 0642 GMT 22 Sep 80]

CSO: 5500

COOPERATION WITH PALESTINIAN PRESS AGENCY

Maputo NOTICIAS in Portuguese 6 Sep 80 p 1

[Text] Beirut, 5 September (AIM [MOZAMBIQUE INFORMATION AGENCY])--AIM (Mozambique Information Agency) and WAFA (Palestine News Agency) today signed a cooperation agreement in the capital of Lebanon.

The agreement calls for the regular exchange of information and photographs between the two agencies and their disclosure within the respective distribution channels.

The accord protocol was signed for the AIM directorate by Carlos Cardoso and for WAFA by Fammy Hussein, deputy director.

Carlos Cardoso has been in Lebanon for a week now where he is making a visit in response to an invitation from the PLO.

WAFA is the second Arab news agency to sign an agreement with AIM. In December of last year, a cooperation agreement was signed with INA, the information agency of Iraq.

5058
CSO: 4401

BRIEFS

RELAY, SATELLITE STATIONS--Two more radio relay stations are to be constructed in Cross River State. The project would be completed and commissioned by December, this year. The Director of Information in the state, Miss Martina Ikpa, announced this while explaining her department's policy to the Chairman of Ogoja Local Government area, Mr. Anthony O. Ogbeche. Miss Ikpa disclosed that the relay stations would be sited at Ogoja and near Uyo. The director said that the projects were embarked upon to improve the reception of the Cross River State Radio in Calabar. Miss Ikpa who was accompanied on the tour by the Chief Public Relations Officer, Mr. Moses Ekpo, also announced that two satelite stations were envisaged in the state to improve the transmission of the television station in Calabar. Both of them regretted the situation where the radio and television had not been able to serve several communities and pleaded with the public to exercise patience while renovations were being carried out on the stations. The director maintained that the equipment for the satelite installations had been acquired by the Federal Government and assured that the installation work would soon begin. Earlier, the chairman had strongly criticised the poor reception of the radio and television, adding that communities in Ogoja didn't pick the two stations. He urged the state government to take up the renovation work seriously in view of the impact the radio and television had on members of the public. [Excerpt] [Kaduna NEW NIGERIAN in English 6 Sep 80 p 7]

COAXIAL CABLE SYSTEM--A new system of transmitting telecommunication signals is to be introduced in the country. Known as the coaxial cable, the system will serve as an alternative route in the event of a fault in the existing microwave system. These facts were made known in Kaduna by the project manager for the Department of Posts and Telecommunications in the area, Mr Olu Kayode Kuforiji, while addressing a team of journalists currently on a tour of P and T projects in the country. He said that the terminal building of the new system has already been completed. Earlier the territorial controller for the state, Mr Francis Anyadike, had attributed the difficulties being faced by the corporation to the rapid rate of urbanization as well as the political and economic developments of the past 10 years. [Text] [AB220924 Lagos International Service in English 0830 GMT 22 Sep 80]

RADIO CORPORATION TESTS TRANSMITTER--The new station of the Federal Radio Corporation of Nigeria, FRCN, in Abuja will start test transmissions today. Voice of Nigeria is an arm of the Federal Radio Corporation of Nigeria. Signals from the station can be picked up on 909 khz, 330 meters in the (?medium wave) band from 6 in the morning until 11 at night [0500-2200 GMT]. Formal broadcasting will commence from the station on national day. [Excerpt] [LD251746 Lagos International Service in English 0830 GMT 25 Sep 80]

CSO: 5500

BRIEFS

TELECOMMUNICATIONS DEVELOPMENTS--Two of the most modern telephone switching systems in the world are to be introduced in South Africa next year. The minister of posts and telecommunications, Mr Henie Smit, has announced that the post office is acquiring two new exchange systems from West Germany and from France. These will be introduced in the Johannesburg and Pretoria areas. Mr Smit, who officially opens a new post-office at Stilfontein in the Western Transvaal this morning, said that in addition to the new switching systems a number of new services were in the offing. These included push-button telephones with built-in memories, videotext--a system which enabled telephones to be connected to a television set and allowed the user to draw on information from a central data bank, and video-conference, which enabled businessmen to confer with associates in other cities. Mr Smit said this development would put South Africa ahead of many industrialized countries. [Excerpt] [LD251750 Johannesburg Domestic Service in English 1115 GMT 24 Sep 80]

CSO: 5500

MEDIUM WAVE TRANSMITTERS INSTALLED IN FIVE PROVINCES

Lusaka TIMES OF ZAMBIA in English 25 Sep 80 p 5

[Text]

ZAMBIA Broadcasting Services has installed medium wave transmitters in five provinces as part of its expansion programme to improve services in the country, chief engineer, Mr Churchill Mutale said in Lusaka yesterday.

Transmitters would be installed at Chipata, Mongu, Solwezi, Mansa and Kasama.

Mr Mutale said the installation of medium wave transmitters would improve radio reception and later television service in the areas.

Two transmitters had been installed in each of the provinces and were now on test.

Mr Mutale said ZBS had plans to extend coverage from the line of rail to provincial headquarters in all parts of the country, adding that with funds available services could be extended to all districts.

Reception

Mr Mutale said Chipata, Petauke, Mpika, Serenje, Kaoma, Mumbwa and Mongu would have television reception by the end of the year when the Posts and Telecommunications Corporation increased the micro-wave link.

Two years ago, the then director of ZBS Mr Edgar Chellah announced feasibility studies to provide and extend effectively radio reception throughout the country.

Studies on television expension to areas away from the line of rail were made when President Kaunda commissioned the Nakonde-Kasama-Lusaka microwave link which is part of the Pan-African link.

Mr Chellah had said there was ignorance about the activities of the Party and its Government in areas where radio reception was poor although the majority of Zambians lived there.

CSO: 5500

ZBC EXTENDING ITS NETWORK TO REACH ALL THE PEOPLE

Salisbury THE HERALD-BUSINESS HERALD in English 25 Sep 80 p 8

[Text] The Zimbabwe Broadcasting Corporation would like to see the mass media contributing to "the creation of a new man for the new society."

In the words of the Corporation's director of programmes, Mr Charles Ndhlovu: "The new man would be above racism and tribalism. He would not suffer from the disease of nepotism...but would be able to accept criticism and put self-criticism into effect.

"This man would accept the reality that to everything there must be a negative and positive aspect."

Mr Ndhlovu said the people of Zimbabwe as a whole were the seed for this new man. "It should be allowed to sprout and emerge as a great forest of new men for the new society."

In a bid to accomplish this mammoth task the ZBC was committed to extending its communications network into the farthest corners of Zimbabwe.

The plan to update the Corporation--estimated now at a cost of more than $19 million--is forging ahead. The sweeping exercise includes short and long-term training, the replacement of old equipment and the restructuring of programmes broadcast on radio and television.

As funds become available, these changes will become reality.

"We have already achieved quite a bit," said Mr Ndhlovu. "We have a board of directors working as a collegiate, which is proving highly successful. This example of working as a collective unit is being illustrated through the mouth-piece of radio...we are seen to be implementing the spirit of reconciliation."

Mr Ndhlovu said the Corporation was moving towards fulfilling the recommendations made earlier this year by the BBC. It had already successfully integrated the former Radio Harare and Radio Mtwakhazi as Radio Two.

"We felt there was a need to do this as both these services were used by the previous regime as a tool to divide the people," he said. "It promoted a spirit of tribalism and regionalism...the whole concept was racist."

Rural Areas

One of ZBC's prime concerns was to take the radio and television network deep into the rural areas, he said. This had to be done on a unified, national system.

"There has already been a substantial increase in the number of radio subscribers in Zimbabwe," said Mr Ndhlovu.. "There has also been a slight increase in the number of television subscribers...definitely no decrease in either."

He said broadcasters on all services were being encouraged to spend more time with "the people"...to assess their wants and needs.

"The new summer schedules will include ideas which will emanate from the people themselves. Our programmes must be fed by our culture."

Plans to introduce a national education service for both radio and television were "well advanced," said Mr Ndhlovu. This was one of ZBC's priorities.

CSO: 5500

DETAILS ON TELECOMMUNICATION SYSTEM GIVEN

Salisbury THE HERALD-BUSINESS HERALD in English 25 Sep 80 p 8

[Text]

ZIMBABWE has the third largest telecommunications system on the African continent.

In a paper prepared recently by the Postmaster General, Eng. G. C. Mills, the telecommunications infrastructure in this country was described as "soundly based and highly developed, despite under-capitalisation".

He said however, that the current lack of finance was a major problem for the Posts and Telecommunications Corporation. If it was not resolved, it would be of serious consequence to the Corporation's ability to meet its future obligations.

"Under-capitalisation in the last five or six years has meant an insufficiency of plant and equipment and resulting need to introduce the provision of services on a priority basis.

"There is at the moment," he said, "a large suppressed demand for services. The lack of funds to purchase plant and equipment has meant a denial of much-needed income, while the operation of obsolescent plant has meant increased operating costs."

Another problem being experienced by the PTC was the loss of trained staff.

Mr Mills said it took on average six to eight years to train staff to a high level of efficiency.

"The standard of service will inevitably deteriorate until we can remedy the position ... we have no wish to employ expatriates."

GROWTH

The Corporation's rate of growth recorded an upward trend immediately prior to and after Independence in April this year, said Mr Mills. This was due solely to increased utilisation of the network primarily in respect of overseas traffic.

"This continued rate of growth in income, irrespective of traffic on offer, cannot however, be sustained as the capacity of the existing network is saturated," he said.

"Not until additional plant is installed will this situation be remedied. It takes a minimum of three years to obtain and commission exchange plant on the scale required," he added.

Consequently, until funds become available, no improvement could be anticipated before three years had lapsed.

The present telecommunications system operating in Zimbabwe incorporates 97 telephone exchanges, of which 49 are automatic.

There are 214 000 telephone stations, some 28 percent of which are privately-owned. More than 90 percent of subscribers have access to STD — or Subscriber Trunk Dialling.

"Although at present these 92 percent have international trunk dialling only to Mozambique and South Africa, this facility will be available to them to Zambia within weeks," said Mr Mills, "and to the major countries of the world, provided we obtain funds, within 18 to 20 months."

He said the national telephone density in Zimbabwe was 2,96 per 100 population. By comparison, the figure for North America was 73,6; for Europe 20,5; in South America 4,9; and among member states of the OAU was 0,4 per 100 population.

MICROWAVE

The country's two telex exchanges — one in Salisbury and the other in Bulawayo — serve more than 900 subscribers throughout Zimbabwe.

The comprehensive trunk network penetrating the country consists of OW lines, VHF, UHF and Microwave Radio Systems.

"The present position regarding international services," said Mr Mills, "is that we have adequate overseas links. Besides a direct HF service, we have 25 channels which transit South Africa using that country's Earth Satellite Station. By 1983 it is estimated we will require about 130 channels to 14 overseas destinations.

EXPANSION

"We have adequate services to Beira in Mozambique with service to Maputo dependent on the Mozambican system."

There were also limited services to Zambia, he said, which within a very short period would be increased by 60 channels, achieved by restoration of previous trunk systems.

"Further expansion of services — including a TV capability — will have to await the installation of a Microwave link between Bulawayo and Victoria Falls. This has been surveyed and will be provided once funds are made available."

Mr Mills said there was a limited service in existence to Malawi using a direct VHF link between Umtali and Blantyre. "This is the longest VHF link in the world," he said, "and is unusual due to its length and the ingenuity used in the adaption of equipment to ensure its operation."

Services to South Africa operate via a Microwave link and include TV facilities.

Mr Mills said the existing system was fully capable of expansion to meet the demands of both a modern business society and to provide for the services needed in rural areas — at the same time, remaining financially viable.

TECHNOLOGY

He said: "This healthy position has been brought about over a period of time by the correct choice of technology and an emphasis on the efficient management of this technology in the planning, developing and operating of the telecommunications network.

"This has provided for flexibility within the network to meet demands for its service both to date and for the future."

The Corporation's future plans will be based on two major criteria.

One is that telecommunications is an essential sector of the infrastructure and a fundamental factor in the economic and social development of the country. The other is the importance of ensuring the financial viability of the Corporation.

"The demand for telecommunications services is divided into two well-defined segments," said Mr Mills. "These are the commercial and the rural areas. Besides the division in terms of geography, there is a marked difference in terms of financial considerations.

COMMERCIAL

"It is the commercial area from which the income has to be derived for the subsidation of the rural area."

He said the Corporation's objectives in the commercial area was to provide every modern telecommunication facility for the public in order to maximise revenue earnings.

"This policy has the added advantage of ensuring that the commercial community will be on equal terms with their counterparts in the rest of the world — an essential requirement for the country's economic progress."

Objectives in the rural areas were to facilitate economic and social development by the extension of telephone services to every growth point where it was required or where it would serve a community.

"The service objective in the rural areas will be that 'every call is to be an effective call,'' said Mr Mills. "Consequently plant and equipment provision will be related to the ability of local staff to maintain it — and the equipment's proven capability to operate in the prevailing environmental conditions."

CSO: 5500

BRIEFS

OLYMPIC RADIO, TV FACILITIES--And now a short review of the USSR state television and radio weekly GOVORIT I POKAZYVAYET MOSKVA. The new olympic radio and television center is beginning its post-olympic service. The large modern television and radio system, comprising the new olympic television and radio center, a switching center, a network of surface microwave and cable lines, and satellite communications systems, will allow a better use to be made of artificial earth satellites, primarily to provide television broadcasts for the regions of West and East Siberia, which was envisaged by the decisions of the 25th Congress of the party. From 20 October, the weekly reports, the first program of Central Television and All-Union Radio will be relayed to the regions of Siberia, Kazakhstan, Central Asia and the Far East at a more convenient time for their inhabitants. From 5 October the zone of assured reception for the fourth program of central television will expand. In future new steps will be undertaken to improve television and radio broadcasting in our country. [Text] [Moscow Domestic Service in Russian 0700 GMT 27 Sep 80]

CSO: 5500

STEPS TAKEN TO PREVENT COMPUTER BANK THEFT, MISUSE

Paris LE MATIN in French 2 Sep 80 p 7

[Article by Guy Schwartz--passages between slantlines originally published in italics]

> [Text] 15 billion francs. This is the estimate, by the International Association for Insurance Studies of Geneva, of the annual losses recorded in Europe in utilization of data processing. Losses which include, notably, those due to fraudulent utilization by programmers or to accidental or intentional destruction. This is why, in a reflection of what is happening in the United States, a French company of "advice on data processing security" has just been created. With high ambitions.

The misfortunes of some are definitely the fortune of others. The crimes perpetrated in recent months in France against computers of Philips and CII-Honeywell-Bull have in fact added weighty arguments to the commercial initiatives of a new category of service providers: advisers in data processing security. In particular those that work in the company which is perhaps the biggest of its kind in the Hexagon: Segesi.

Created in March by Pierre Leroy, a former director of Sema which is itself one of the biggest French data processing services companies, Segesi offers /"to identify and evaluate the data processing threats to enterprises or public organizations, to define and put into operation the data processing security system adapted to them."/ But it is not just a question of guaranteeing the continuity of data processing service in cases of interruption or destruction of a center, nor even of assuring the integrity of the data and the processing. It is also a question of protecting confidential, or even secret, information.

The crimes or accidents of which computers are the victims do not really represent the biggest loss sustained by their users. Fraud, in fact, seems a much more formidable factor. In 1979, for example, in the United

States, 475 cases of fraud were identified. A figure which makes it possible to estimate [there were] $300 million in damages attributable to computer delinquency.

The creativity of computer swindlers knows no limit. The technique has long since been discovered whereby a knowledgeable programmer can systematically transfer to his account 1 or 2 centimes deducted from the paychecks of the thousands of other wage-earners at the enterprises where he works. We are also familiar with the swindle, unsuspected for 8 years, of a Californian who, 3 years ago, obtained for himself the 3 secret codes of the bank of Los Angeles where he was employed. Which enabled him to divert to himself the sum of $10.2 million. But in all probability we don't know about the majority of the swindles, the best being, like crimes, those that are not discovered.

But one should not deduce from this that the preventive measures of a company like Segesi are only aimed against malevolence. Pierre Leroy points out in particular that it is also proper to be prepared against errors (involuntary) of manipulation or gainst the defective functioning of hardware and software. Which happens more often than one would think. For, contrary to the idea that the programmers are pleased to see propagated, a computer practically never makes a mistake. If the results it furnished are erroneous, it is because the data and the programs feeding into it are [erroneous]. Responsibility thus rests exclusively with the men in charge of the machine.

Today, some builders of computer hardware do not hesitate to estimate at 10 percent of sale price of the hardware the cost of security. That is to say that, to the degree that the measures of companies like Segesi prove effective, users have an interest in calling on their services. As has been the case, for several years, in the United States. Pierre Leroy in this respect is counting on profiting from the American experience. This is why he is in process of negotiating cooperation agreements with firms on the other side of the Atlantic.

The half-dozen specialists who for the moment constitute Segesi will certainly profit from it. A half-dozen who will beget offspring, since Pierre Leroy's goals are ambitious. /"There will be 20 of us by the end of next year, and 50 in 3 years,"/ he tells LE MATIN in fact. In order better to insure this progress, it is true, he can count on the technical support of one of his shareholders, Inforama, a company of data processing services and advice of 100 or so persons, but also, on the financial level, on another of his shareholders, Moyse Lownders Lambert, a Franco-British insurance group.

9516
CSO: 5500

NORWAY

RESEARCH, DEVELOPMENT IN TELECOMMUNICATIONS

Oslo TELEKTRONIKK in English No 2, 1980 pp 198-212

[Text]

Introduction

As a basis for my specific topic, I will start by giving some facts about Norway in general, and the Norwegian Telecommunications Administration in particular.

Norway

I feel that it may perhaps be best to present the basic figures for Norway together with those for your country:

	Österreich	Norge
Area km^2	83 853	386 342
Population million	7,5	4,1
Main telephone subscriber	1 746 785	983 512
New telephone connections 1977	166 315	44 594
Telephone density	32,5	38,6
Telex subscribers	16 343	6 200
Datel modems	3 876	4 287
Land mobile telephone subscribers	309	16 078

Roughly, compared with you we have four times the area and half the population.

Geographic similarities are high mountains, deep valleys, cascading rivers and quiet lakes. Differences are the shape of the country: a width varying between 430 km and 6 km and a length of 2 700 km of which almost half is north of the Arctic Circle, and the enclosure by the sea: deep fjords cutting as much as 200 km into the country, hundreds of thousands of islands and a main coastline of 21 000 km.

Thus, our sturdy country may offer even more hardship for the implementation and operation of telecommunications than yours.

The Norwegian Telecommunications Administration

The Royal Ministry of Communications supervises five main administrative units concerned with roads, railways, post, telecommunications and civil air traffic, respectively. Thus, in Norway post and telecommunications have *separate* administrations.

The detailed directives for the Norwegian Telecommunications Administration state among others:

- The services are to be operated efficiently and in accordance with business principles, as far as this is consistent with social considerations, and specifically with reference to the subject of this lecture:
- The Administration shall take part in research & development in the telecommunications field in order to exploit the possibilities for improvement and rationalization of the operations and explore the requirements for further expansion of the services in all parts of the country, and work out plans for meeting these requirements.

Lecture given in the Wiener Ingenieurhaus 11. October 1978
at the invitation of
ÖSTERREICHISCHER VERBAND FÜR
ELEKTROTECHNIK
Sektion Elektronik und Nachrichtentechnik

The organigram of the Norwegian Telecommunications Administration is seen in *Fig. 1a - 1c:*

- *Fig. 1a* shows the main organizational lines.

The *Board* consists of six members. Five of these are appointed by the government for a four-year period, the sixth is the Director-General who serves for six-years periods. One of the five appointed members shall be an employee of the Administration.

The *Council* consists of 15 members. They are appointed for a four-year period; one third by the parliament, the government and the employees, respectively.

The *Central Administration* has the main staff function, for further details see *Fig. 1 b*. It is located in Oslo (except for the Research & Development Department), and the personnel strength is 1 457.

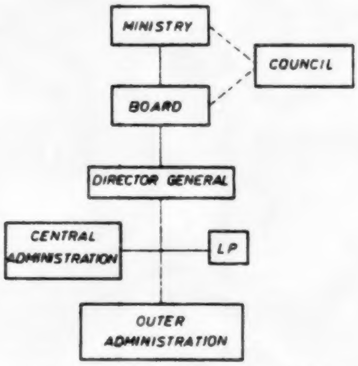

MINISTRY
COUNCIL
BOARD
DIRECTOR GENERAL
CENTRAL ADMINISTRATION
LP
OUTER ADMINISTRATION

Fig. 1a Main organigram for the Norwegian Telecommunications Administration

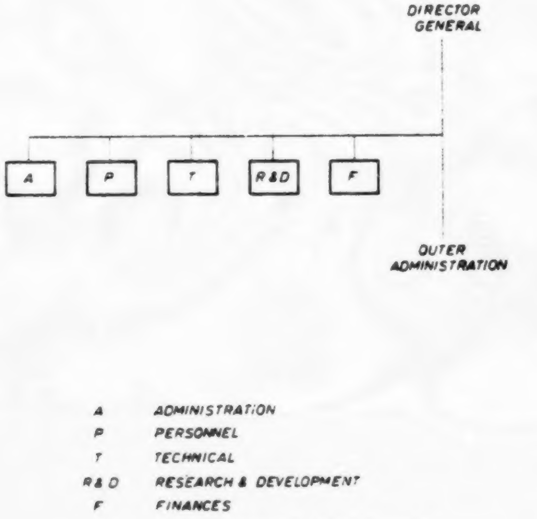

DIRECTOR GENERAL
A
P
T
R&D
F
OUTER ADMINISTRATION
A ADMINISTRATION
P PERSONNEL
T TECHNICAL
R&D RESEARCH & DEVELOPMENT
F FINANCES

Fig. 1b The Central Administration

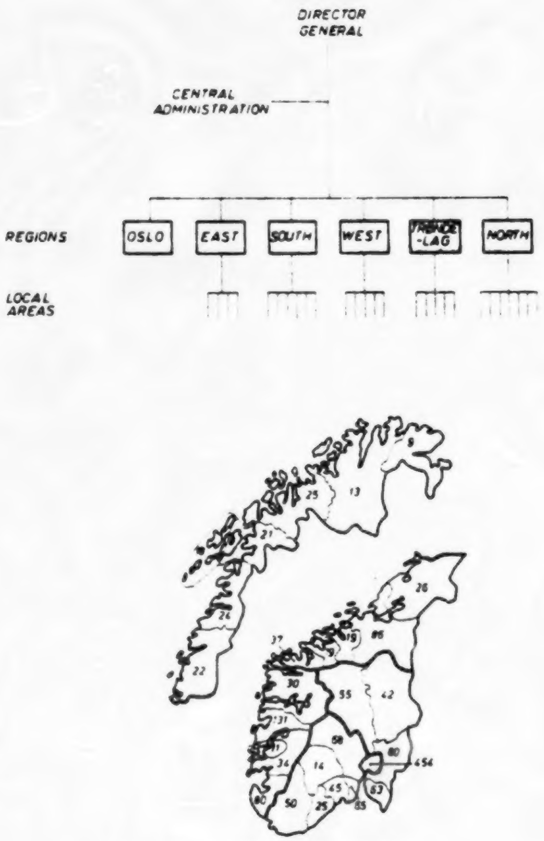

DIRECTOR GENERAL
CENTRAL ADMINISTRATION
REGIONS
OSLO
EAST
SOUTH
WEST
TRØNDE-LAG
NORTH
LOCAL AREAS
9
25
13
27
26
22
26
37
19
86
30
55
42
31
58
80
454
34
14
45
83
40
50
25
85

Fig. 1c The Outer Administration

The *Outer Administration* counts 18 432 people, for further details see *Fig. 1c*.

With the present general policy of decentralization and strengthening of local activities in Norway, it is expected that future growth mainly will be in the Outer Administration, and not in the Central Administration.

Long-range planning (LP) is organized in the following way:

- The LP committee, which consists of the Director-General as chairman, the five department directors from the Central Administration and the six regional directors from the Outer Administration, has the *steering* responsibility.
- A small secretariat staffed by economists and engineers has the *coordinating* responsibility.

- The various units in the Central Administration and the Outer Administration have the *professional* responsibility.

In this way it is avoided that the long-range planning is in the hands of an exclusive group who later never would be faced with the consequencies of their ideas. Instead, the work is steered by the top leaders, and the planning is done by those units which later will be responsible for the implementation and operation. The long-range plan will comprise three four-year programs with a decreasing degree of detailing, and also contain certain perspektives up to year 2000.

- *Fig. 1b* shows the Central Administration.
  There are five departments, each headed by a director:
  - Administrative
  - Personnel
  - Technical
  - Research & Development
  - Finance

  The main tasks of the Central Administration are nation-wide coordination and preparation of general guidelines and instructions.
- *Fig. 1c* shows the Outer Administration.
  In addition to Oslo, there are 27 local areas divided among 5 supervising regions. To give an idea of their size the number of telephones · 10⁻ in each local area is indicated.
  The main tasks of the Outer Administration are daily operations, detailed planning and customers services.

The Norwegian Telecommunications Administration is responsible for the implementation and operation of:

- The public telecommunications networks for telephony, telegraphy, telex, datel, etc.
- The public land mobile telephone service.
- The maritime services for ships both on the oceans and on the coastal waters.
- The telecommunications with the oil rigs in the North Sea.
- The program channels and transmitters for sound and television broadcasting.
- The aeronautical radio services.

I will quote some figures to broadly illustrate these activities:

- Of the trunk lines 65% are carried by radio links and 29% by coaxial cables.
- There are 134 VHF and 18 UHF base stations in operation for the land mobile telephone service.
- Norway ranks as number five in the world in mercant shipping with about 2 000 ocean-going vessels. Furthermore, about 4 000 fishing and coastal ships require mobile telecommunications services. In order to meet these requirements, the Administration operates 1 large HF radio station (Rogaland), which handles on an average 500 telephone calls per day with ocean vessels all over the world, and 24 MF + 57 VHF radio stations for coastal traffic with an average of 3 000 calls per day. In addition, there is a continuous watch on the emergency and calling frequencies.
- In addition to the 21 (LF, MF and HF) broadcasting transmitting stations, there are 468 VHF transmitters for sound and 989 for television broadcasting. These 989 transmitters provide a coverage of 95,8% of the population, but about 1 400 further transmitters are required to give full coverage.
- There are 44 civil airports in Norway equipped with landing and communications facilities and 170 en route installations along the airways.

International and Nordic cooperation

Norway participates in the work of the International Telecommunications Union (ITU), the Conférence Européenne des Administrations des Postes et Télécommunications (CEPT), the International Telecommunications Satellite Organization (INTELSAT), the International Maritime Satellite Organization (INMARSAT), the Interim European Telecommunications Satellite Organization (INTERIM EUTELSAT), the Inter-Governmental Maritime Consultative Organization (IMCO), the International Civil Aviation Organization (ICAO), etc.

Furthermore, a close cooperation in the telecommunications field is established between the Nordic countries: Denmark, Finland, Iceland, Norway and Sweden. Based on the Nordic telecommunications agreement, unified positions on operational and technical matters are worked out and common projects fostered. Thus, there is a Nordic earth station operating in the INTELSAT system, a jointly specified and procured Nordic public data network will become operational during the coming year, and joint specifications for an automatic land mobile telephone system have just been finalized.

History

From long time ago there have been laboratory activities in the Norwegian Telecommunications Administration, mainly concerned with equipment which was in use. Thus, from 1961 there existed a *Central Laboratory* with 24 people.

From about 1950 there were discussions both inside and outside the Administration concerning a more active attitude towards research & development. This was undoubtedly inspired by the new developments in microwave techniques, semiconductor technologies and broader system considerations together with a general wish to strengthen Norwegian telecommunications industry. A program for a Research Establishment was worked out and approved in 1968 as a guideline for the building-up phase, and during the following years its staff increased by 10-15 per year.

In connection with a major reorganization of the Central Administration in 1972, the Research & Development Department was created, comprising the Central Laboratory and the Research Establishment. New plans were then made for an expanded Central Laboratory, and the Research Establishment has grown further.

Thus, our Research & Development Department is indeed a *youngster*, who thanks to good support from the mother organization has grown and matured happily. The past years have offered many challenges, and more will certainly follow.

Main tasks

The Research Establishment

The tasks of the Research Establishment deal with two mainaspects:

- Problems arising from the existing telecommunications networks and which require new solutions in order to the full benefit from the huge investments which these networks represent.
- Introduction of new technology and new methods in order to improve or expand the services.

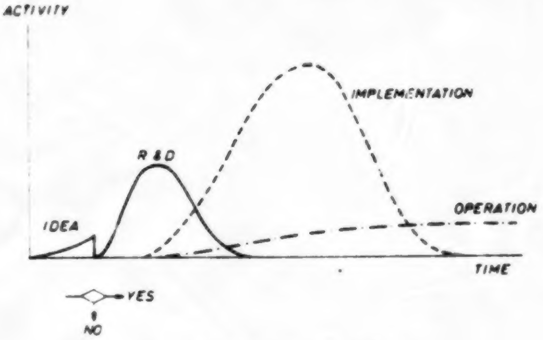


Fig. 2 Four main project phases

In order to explain the main role of the Research Establishment in relation to those of other parts of the Administration, I will refer to *Fig. 2,* which shows the four main phases of a project from it is conceived until it is operational:

- Generation of ideas.

  The Research Establishment is responsible for

  - keeping itself currently well informed about the development trends concerning existing and new telecommunications *services, techniques* (networks, systems, equipment, components and technology) and *methods,*
  - evaluating these trends in relation to the requirements and the possible applications in the telecommunications networks,
  - informing relevant bodies in the Administration and industry about development trends of importance to them,
  - presenting proposals and specifications for new research & developments projects either based on own evaluations or on requests from others.

Up to this point in the project history the effort in money and manpower will usually be relatively modest, and we do not have to be too restrictive in our actions. However, the decision *yes/no* whether to carry on or not, is important, because the following phases will normally imply high expenses and also in many cases have significant consequencies for the personnel.

- Research & development.

  This phase can typically be divided in the following activities:

  - Building up of special competence and evaluation of specific principles and technology, often based on theoretical and/or experimental investigations.

    This part will naturally be the task of the Research Establishment, if necessary assisted by outside consultants.
  - Statement of broad technical and operational requirements, including interfaces.

This part involves departments in the Central Administration and also the Outer Administration, which ultimately will be responsible for the operation.

- Development of more detailed specifications. This part involves the Research Establishment, other departments in the Central Administration, the Outer Administration and often also the industry.

  In many cases it may be advantageous to carry out investigations in a limited geographical area under clearly specified conditions, before tackling a countrywide solution.

- Implementation.

  The main responsibility of the Administration normally lies with the Technical Department, supported by the Outer Administration. Orders for production are placed with the industry.

- Operation.

  The main responsibility is here with the Outer Administration.

The time scale in *Fig. 2* may be quite different for different projects, but I hope that it illustrates the point I whish to make concerning the roles of the various bodies involved:

Research Establishement	- catalyst and architect
Technical and other Departments	- building master
Outer Administration	- user (resident)
Industry	- co-developer and supplier.

Obviously, our role is a delicate one, which has to be played with diligence and care in order to keep the right balance between an enthusiastic perseverance for meeting the challenges of *future* goals and a more down-to-earth attitude for solving *today's* problems. Being too enthusiastic, *we* may be ruined - but if we are too reluctant, *our children* will be ruined! We try to deal with this dilemma by usually insisting on having people from other departments or the Outer Administration taking part in our projects, either as active project participants or as members in the project steering committees.

The Central Laboratory

The Central Laboratory shall perform measurements and investigations with the aim of ensuring that quality requirements are met in the various components and systems which form parts of the overall telecommunications facilities.

This responsibility implies:

- Type control and sampling tests of all subscriber equipment which are intended for connection to the public telecommunications networks, and all equipment for private radio systems.
- General instrument services for the Norwegian Telecommunications Administration.
- Development and design of special equipment.
- Advisory function for quality evaluation of components and equipment, and reliability considerations in general.
- Acoustic investigations of both equipment and buildings.

Organization and personnel

The Research Establishment

It is our belief that research & development activities should be organized to be as *flexible* as possible.

In the Research Establishment we have adopted a *matrix* working system, see *Fig. 3*, which implies that:

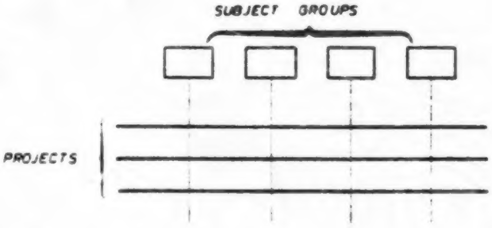


Fig. 3 Matrix working system

- the staff is divided into *subject groups*, each headed by a group leader,
- *project teams*, each headed by a project leader, is formed for the various spesific tasks.

Each subject group is responsible for the professional competence in its field and prepares budgets for the equipment and the time needed for its members. The subject groups are established, modified and dissolved according to the needs at any time. The function as group leader does not have any salary implications; a group leader may well be at a lower salary level than members of the group. Experience has shown that group leaders may want to be released from their functions after some years. We have adopted the practice that the leader normally is proposed by the members themselves, thus giving them av voice in matter related to their own working situation.

Fig. 4 shows our present subject groups. They belong to two divisions, each headed by a Chief of Research.

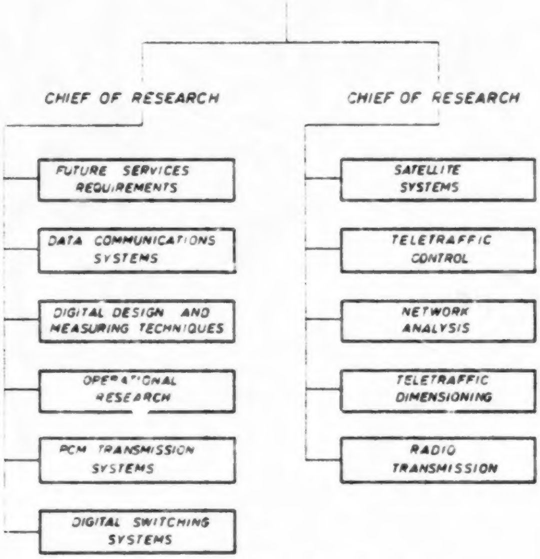

CHIEF OF RESEARCH
CHIEF OF RESEARCH
FUTURE SERVICES REQUIREMENTS
DATA COMMUNICATIONS SYSTEMS
DIGITAL DESIGN AND MEASURING TECHNIQUES
OPERATIONAL RESEARCH
PCM TRANSMISSION SYSTEMS
DIGITAL SWITCHING SYSTEMS
SATELLITE SYSTEMS
TELETRAFFIC CONTROL
NETWORK ANALYSIS
TELETRAFFIC DIMENSIONING
RADIO TRANSMISSION

Fig. 4 Subject groups in the Research Establishment 1978

In total, there are 67 persons with university degrees (Dipl.-Ing. or higher and similar levels in other subjects such as mathematics, physics, economy and even sociology) and 11 engineers/technicians.

The Central Laboratory

In the Central Laboratory we have, partly for historic reasons and partly because the work is less project-oriented, a more rigid organization. The staff is also here organized in subject groups. Much of the work is performed inside these, but project teams are formed in specific cases.

Fig. 5 shows the subject groups in the Central Laboratory, which is headed by a Chief Engineer.

In total there are 24 persons with university degrees and 35 engineers/technicians.

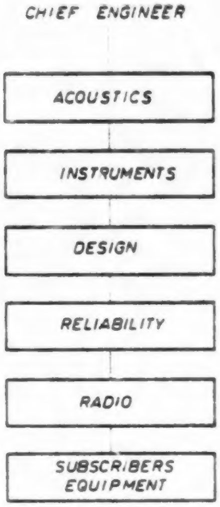

CHIEF ENGINEER
ACOUSTICS
INSTRUMENTS
DESIGN
RELIABILITY
RADIO
SUBSCRIBERS EQUIPMENT

Fig. 5 Subject groups in the Central Laboratory

The Administrative Unit

In order to relieve the professional staff as much as possible from administrative and routine work, we have formed an Administrative Unit which takes care of all supporting services, including the mechanical workshop.

The number of persons is 27.

Total

The organigram for the Research & Development Department is thus as shown in *Fig. 6*.

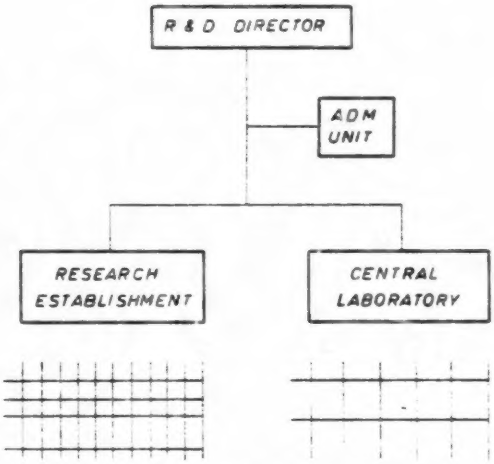

R & D DIRECTOR
ADM UNIT
RESEARCH ESTABLISHMENT
CENTRAL LABORATORY

Fig. 6 The Research & Development Department

The total staff amounts to 164 persons.

The heads in the blocks form a collegium, where matters of general interest for the operation of the Research & Development Department are discussed.

Certain personnel aspects

The Research & Development Department is a young institution itself, and the staff is also young. In the Research Establishment the average age is 31 years with very small variations through the years. In the Central Laboratory it is 34 years.

Our experience is that it has been rather rare to get suitable candidates from the industry for our scientist positions. We mostly get applicants fresh from universities or with a few years of experience from university circles. In our rapidly developing field of work, people who just have finished their education and have an open mind, may relatively soon be able to give valuable contributions in specific areas under the guidance of key people with a broad system view. However, there is a tendency that the key people like to pursue a particular project beyond the idea phase, and thus leave the Research & Development Department in order to join the body responsible for implementation or production. Although it temporarily hurts us, this career pattern has been of great benefit to the Administration as a whole. The Research & Development Department is undoubtedly a valuable source for recruiting promising candidates who eventually find their place in other parts of the Central Administration, in the Outer Administration or with our suppliers.

The staff uses on an average about 15% of their time for increasing their general professional competence by participation in internal collequia and external courses, general library studies, etc. Furthermore, there is an established practice that those who are granted a scholarship from the Norwegian Counsil for Scientific and Industrial Research for a one-year study abroad will get leave of absence with full salary if married and half salary if single. We have about one staff member per year benefiting from this arrangement.

Housing

The Central Administration is located in downtown Oslo, which clearly is not a suitable place for laboratory activities. It was therefore decided that a new building for the Research & Development Department should be constructed at Kjeller, about 20 km from the rest of the Central Administration. Kjeller was selected because there are other research activities located there: the Norwegian Defence Research Establishment, the Institute for Atomic Energy, the Air Material Command, etc.

Our building is pleasantly located in a rural area, see *Fig. 7*. The first block was completed in 1973, and the second block and an Acoustics wing in 1977.

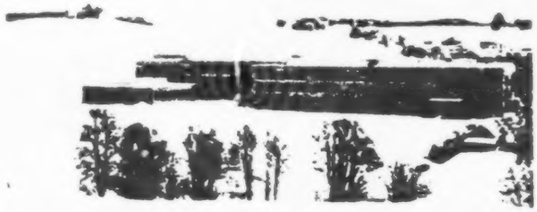


Fig. 7 The building of the Research & Development Department

The total floor space is 6000 m^2.

We have made a point of having a maximum of flexibility. Except for the special laboratory rooms, all walls are removable, and there are cable ducts with outlet cabinets between each window.

The special laboratory rooms are:

- Anechoic acoustics chamber with a lower limiting frequency of 90 Hz for electroacoustical measurements.
- Reverberation chamber with a volume of 200 m^3 for evaluation of telephone kiosks, etc.
- Several listening rooms for subjective tests of speech quality and for experiments with conference telephony.
- Climatic room of 15 m^3 for temperature and humidity testing.
- Vibration test laboratory with a dynamic force of 6200 N.
- Anechoic microwave chamber with a lower limiting frequency of 1 GHz.

The roofs have platforms for antenna measurements.

Furthermore, we have a small transmit/receive earth station for propagation measurements of 11 and 14 GHz signals from satellites.

Finances

Our accounts for the year 1977 are as follows:

		Mill N Kr	% of total
Salaries, incl social expenses		15.800	44
Buildings, furniture, electricity, office expenses, etc		1,400	4
Travelling, transport, etc		0,350	1
Technical equipment		4,800	14
External contracts with industry	8,050	12.350	35
with institutes	4,300		
Investment tax		0,800	2
Total Mill N Kr		35,500	100

(Approximately Mill Ö Sch 113)

I wish to stress the item *external contracts*, amounting to 35% of our total expenditures. 65% of this amount goes to contracts with industry and 35% with institutes.

The total expenditures for the Norwegian Telecommunications Administration in 1977 was 1913 mill N kr for investments and 2763 mill N kr for operation. Thus, the research & development expenses were about 1,3% of the total operation costs.

Working Methods

Project steering

We have worked out a rather comprehensive system for project steering.

For each project a steering committee is appointed; it meets regularly to review the progress and if necessary modifies the course of action. The project team under its project leader carries out work and reports the results. The project program contains precise statements of the purpose and the aim of the project together with a detailed budget of expenses for equipment, computer services, our own personnel and possible external consultants. A project termination report compares the actual expenditures with the budget and discusses possible discrepancies. The time used by each staff member on each project is recorded in order to give a complete picture of the costs involved.

Contract arrangements

Since a large part of our activities is being carried out with the assistance of outside consultants/institutes and/or the industry, we have established a standard procedure for such research & development contracts, which enables us to follow the work closely, evaluate the progress and the results and, if necessary, introduce corrective measures at any stage.

The contract contains the following chapters:

- Description of work.
- Time schedule for the complete project and its sub-tasks.
- Manning.

  We insist that the contractor specifies by name each person working under the contract and the percentage of his total regular working time which is allocated to the project. In this way we are sure to avoid that contractors in their bids display "big names", and then let others do the work.
- Price and payment.

  Normally we fix an upper total limit and specify a rate per working hour for each person. Payment of costs incurred is made monthly.
- Reporting.

  Progress meetings are held regularly, normally at least monthly. For these meetings the contractor shall present written reports.

  The working papers shall be in such a form that they can serve as a basis for the final report.

  The final report shall be approved or disapproved by us within 30 days of receipt.
- Modification and cancellation.

  Both parties can propose modifications if the results, the technical development or other factors change the basis for the project.
- Patents.

  This clause is based on Norwegian patent law.
- Property rights.

  We insist that all results, methods, etc which are worked out under the contract freely can be used by the Norwegian Telecommunications Administration in further studies and for production, also with other contractors and companies.

However, except for these purposes, the results of the project will only be made known to a third party with the agreement of the contractor.

Normally, the contractor may freely use the results from the projects for his own product development and production *in Norway* and as a basis for his further studies *in Norway*.

Information which the contractor already possesses and which is not worked out, but used in connection with the contract, must on request be made confidentially available to the Norwegian Telecommunications Administration to the extent it is necessary for us in our evaluation of the results.

Publication in technical journals, etc is agreed upon with due regard to the contributions made by each of the parties.

- Contacts.

  One person from each party is appointed as contact, and all correspondance is routed through them.

- Disputes.

  The contract contains a legal clause concerning disputes. Fortunately, we have little experience with this

External Cooperation

The partners

So far I have, with reference to the directives for the Norwegian Telecommunications Administration, discussed research & development for the purpose of exploiting the possibilities for improvement and rationalization of our *own* operations, exploring the requirements for further expansion of our services and working out plans for meeting these requirements.

As the largest user of professional electronics equipment and the main authority in the telecommunications field, certain *other* obligations rest with the Administration, notably support and inspiration to *industry* and *education* in the telecommunications field. Reciprocally, industry and educational institutions are giving great support to the Administration.

In a small country like Norway it is important to avoid duplication of efforts. For example, when the Research & Development Department was established, it already existed modern laboratories for work in the semiconductor field at other institutes, and we therefore decided to make use of these. Furthermore, the universities are well suited for studies of basic principles. Similarly, we feel that the industry should be brought in at a very early stage in the development of equipment, because the choise of components and production considerations are decisive for the detailed design. On the other hand, we must take care not to loose our own grasp on the subjects. We do therefore have some laboratories, and we make sure that we always are participating actively in the work of our contractors as members of the teams.

I like to stress that our working contacts with the universities is a good means for recruiting staff.

Thuse, we enjoy and foster a *triangular cooperation* between the Norwegian Telecommunications Administration, the industry and universities.

In the following I will give a closer description of our relations with these partners.

Norwegian electronics industry

For all kinds of electronics (telecommunications, entertainment, computers, automation, etc) there are about 70 manufacturing companies with a total of 13000 employees in Norway. The distribution among the companies is rater uneven, three of them account for 60% of the total turnover. The output is only 1,7% of the total gross national product and 2,3% of the industrial national product. In this situation there are clearly limitations in the types of equipment which the Norwegian industry is able to cope with, for example there is no economic basis for the development of large switching systems.

In Norway, as in other countries, we have had and continue to have extensive discussions concerning purchases by state agencies, and in particular by the Norwegian Telecommunications Administration, in relation to national industrial policies.

There are several factors to be considered:

- The specific directives for the Norwegian Telecommunications Administration clearly state that its main task is to achieve telecommunications of a desired quality at the lowest possible cost.
- Purchase of nationally produced equipment and the presence of a competent and strong industry have certain advantages for the Administration, such as easier possibilities for assistance, modifications and extensions of the equipment and training of personnel.
- The general purchase rules for the state agencies

clearly state that the lowest bid which meets the specifications shall be accepted; only in exceptional cases of great importance to industry or local districts the Royal Ministry of Industry may decide otherwise. The business is closely controlled by the independent State Audit Authority which reports directly to the parliament.
- Various international agreements (EFTA, EEC, GATT) impose certain restrictions concerning national industrial policies.
- There are voices both from the industry and local authorities for using purchases by the state agencies as a means for promoting national research & development and production and for strengthening the economy and employment in local districts.

In 1977 the percentages of nationally produced equipment of various kinds for the Norwegian Telecommunications Administration were:

Transmission	78%
Switching	92%
Subscriber equipment	64%
Vehicles and construction equipment	7%
Broadcasting and aeronautical	81%
Miscellaneous	66%
Total	79%

The purchase rules for the state agencies have recently been reviewed by the government and discussed by the parliament. Generally, they are not basically altered, although a possibility for purchases by negotiations has been introduced.

The new general rules for research & development contracts to be awarded by state agencies state that they should preferably be let to Norwegian companies. In special cases they may involve later production. Contractors who have had research & development contracts can take part in the competition for subsequent production contracts.

As stated previously, the Norwegian Telecommunications Administration feels an obligation to keep the industry currently informed about new development trends, and we place research & development contracts for specific projects at an early stage. In this way the companies concerned are reimbursed of some of their expenses for building up competence on particular subjects, but they have no guarantee of subsequent purchases, and it is up to the companies themselves to decide if and how production and marketing shall be performed.

The Technical University of Norway and SINTEF

In Norway there is one Technical University (NTH), which is located in Trondheim. The number of students is 4600, of which 450 are in the electronics sections of the Electrical Engineering Department.

The Technical University is organized in the traditional *Technische Hochschule* style, and gets its funds from the Royal Ministry of Church and Education. However, it has one important asset: The Foundation of Scientific and Industrial Research (SINTEF). Since this institution is quite unique in Europe, I will describe it in some detail.

SINTEF was established in 1950 as a free foundation with the two main tasks
- to foster and stimulate applied technological research at the Technical University,
- to organize and perform research & development under contracts with customers in industry and the public sector.

An interesting feature is that SINTEF is located *on the campus* and *shares* office and laboratory facilities with the Technical University. Experience has shown that the cooperation has been of great mutual benefit:

- SINTEF's research capability is enhanced by the participation of faculty members acting as consultants. In general project plans and reports are to be approved by the professor responsible for the particular subject area.
- The Technical University's teaching capability is strengthened by SINTEF employees being engaged as part-time professors and lecturers, in particular for the graduate program, and as supervisors for main thesis works (Dipl.-Ing. Arbeit).
- Scientific equipment from both institutions is available to both and complement eachother. All purchases are normally coordinated and in many cases shared.

Thus, SINTEF brings together the academic and the industrial aspects, and is well suited for dealing with multi-diciplinary subjects. The whole cooperation is based more on personal trust and common sense than on detailed written rules.

SINTEF's total turnover for 1977 amounted to 126 mill N kr (approximately 463 mill Ö Sch). The main activities and their relative contributions can be grouped as follows:

- Civil engineering and hydrodynamics	25%
- Automation and data processing	21%
- *Electronics and acoustics*	18%
- Chemistry and metallurgy	15%
- Machine design and production engineering	17%
- Social and hospital research	4%

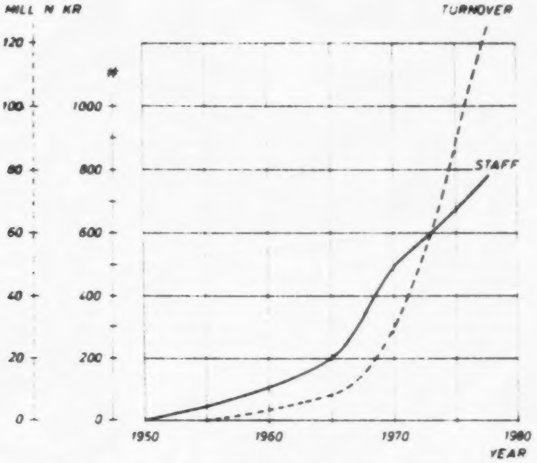


Fig. 8 Growth of the Foundation of Scientific and Industrial Research SINTEF at the Technical University of Norway

SINTEF's growth is illustrated in *Fig. 8.*

The distribution of income from the clients in 1977 was:

- Private industry	51%
- Public sector	38%
- Foreign	4%
- Others	7%

SINTEF is organized in various divisions and six laboratories. Here I only mention the Electronics Research Laboratory (ELAB), which is responsible for the activities in telecommunications, physical electronics and acoustics. ELAB's turnover for 1977 was 21 mill N kr (approximately 77 mill Ö Sch); the largest single client being the Norwegian Telecommunications Administration accounting for 18% of the income. The total number of staff was 121, of which 67 have university degrees, and this matches very closely the faculty staff concerned with the same subjects. ELAB has grown in very much the same rapid way as its mother organization, but the expansion is now coming to a halt because the number of faculty staff seems to be stabilized.

Brief survey of activities

An indication of the particular areas in which the Research & Development Department is active, can be read from the names of the subject groups in the organigrams which I presented for the Research Establishment and the Central Laboratory, respectively.

In addition, there are developments of equipment and methods for more immediate use in the other departments concerned. Examples are small television transmitters, pulse code modultion systems and various administrative computer systems for the daily operations.

I shall not give a detailed account of our work, but only briefly survey some main areas and mention some specific projects.

Many of the types of tasks we are dealing with, are — I am sure — also of great concern to many of you.

The rapid and accelerating development of the electronics technology is certainly well known to this assembly. Nevertheless, I would like to mention two illustrations:

- A typical large-scale-integration memory circuit from about 1970 contained about 2500 components on an area of 10 mm^2, which at that time was considered to be extremely impressive. However, this achievement is rather moderate in comparison with the Nature's creation, because in order to obtain the same memory capacity as that of the human brain, 4.10^9 such circuits, or an area of 40 decares of them, would be required. Today, this capacity can be stored in a magnetic bubble mosaic of 100 m^2.
- The semiconductor development started with the transistor in 1947. If the Volkswagen, which appeared at about the same time, had developed at a similar pace, it would today

- cost 50 Ö Sch each
- consume 1 milliliter per 10 km
- have a maximum top speed of 100000 km/hour
- have a lifetime of 10000 years.

Science fiction appears to be an almost too conservative description of this development!

The digital electronics technology has given rise to the relatively new field of computers. The much older field of telecommunications has long kept to more traditional technology, and digitalization has so far mainly been limited to pulse code modulation transmission. However, now there are clear signs of drastic changes, and we are entering *a new and forceful generation of telecommunications* with digital signal processing, switching and transmission — in marriage with computers — for cost-effective and advanced services.

With the existing equipment and planned extensions the Norwegian telephone network will in 1981 have 1,5 million main subscribers, 11000 local private branch exchanges, 2000 local exchanges, 220 local transit exchanges and 11 major regional exchanges. We are studying the strategy for *evolving this analog telephone network towards a digital, integrated-services network* with 64 kbit/s user circuit capacity.

Our approach has involved several steps:

1) When the Research Establishment was founded ten years ago, we selected *data transmission* as a major field of activity. We worked out system specifications for a data network for field trials, which was implemented in close cooperation with three industrial companies, each developing separate parts of the equipment. Thus, a first all-digital switch was designed in 1973, and experience gained from operation with live traffic. Special attention was given to network control aspects.

2) Armed with the experience from step 1) we entered into a close cooperation with the other Nordic telecommunications administrations on jointly specifying and implementing the *Nordic Public Data Network* which will become operational in 1979. It will offer full duplex digital circuit-switched data services with transmission rates up to 9600 bit/s, see *Fig. 9*.

3) We are now in step 3). We are considering a strategy which implies, see *Fig. 10*.

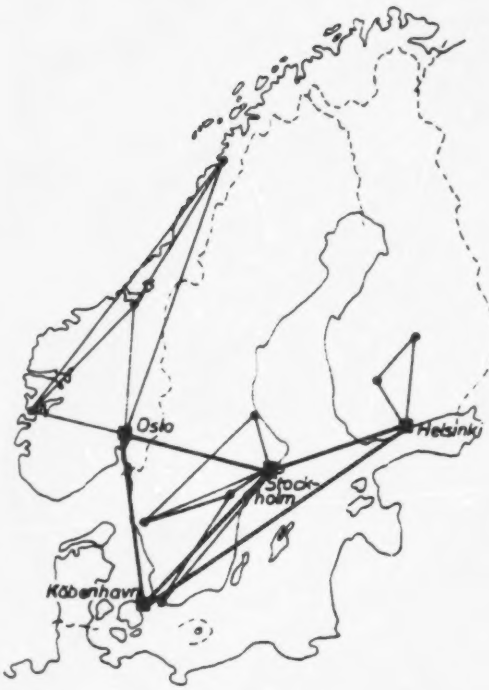


Fig. 9 The Nordic Public Data Network

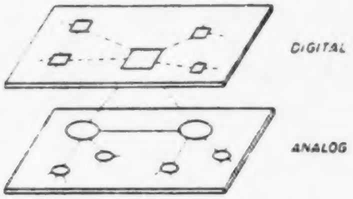


Fig. 10 Digital evolution

- *digital replacement* and expansion of local point and local area equipment,
- creation of an *overlay digital network* between main business centers.

This digital network will in the first phase offer its services to business subscribers with advanced requirements ("first class"), and then gradually be expanded to serve the private subscribers who in the meantime have remained in the analog network ("tourist class"). *Fig. 11* illustrates the envisaged network structure.

In addition to the architectual study we are investigating relevant devices for transmission,

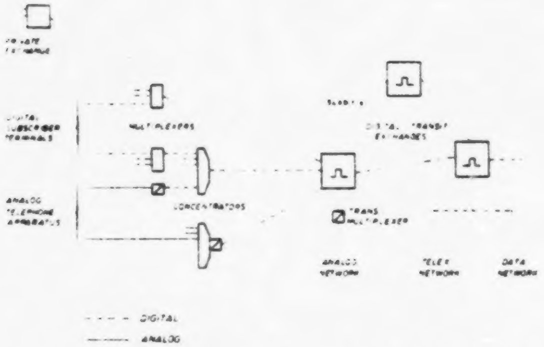


Fig. 11 Envisaged network structure for digital, integrated-services network

switching and terminals both in our own laboratories and in cooperation with ELAB and the industry. One of these developments concern the *trans-multiplexer* for direct analog/digital conversion between one 60-channel frequency-divided group and two 30-channel PCM systems.

Other projects deal with *optical fibre communications,* and with *digital radio links* for up to fourth-order PCM, corresponding to 1920 telephone channels. In connection with the latter we are performing extensive propagation measurements at 18 GHz in different geographical areas.

A subscriber terminal for the digital, integrated-services network will in its ground version comprise:

- keyboard, visual display, handset, loadspeaker and printer, and additional modules, for example for facsimile and pictures, can be plugged in,
- logic circuitry and memories for automatic error-controlled sending/receiving of text and data to other subscriber terminals and in-house or public computer service centers, for network service functions such as call handling information, and for service assistance such as automatic call set-up, repeated call attempts and user guidance presented on the display.

These facilities should meet the requirements of

- intensified *team-work,* such as conferencing of various kinds,
- automated *secretarial services,* along the lines of TELETEX, for processing, printing, registration, filing and searching of texts and VIDEOTEX for presentation of information from comprehensive data bases.

Such services will be of use

- in the *business* sector for subscribers both within the same office building and at different geographical locations,
- in the *household* sector, confer the development in the pocket computer and lately in the home computer field and the plans for the Prestel system in the United Kingdom.

With the assistance of consultants we have carried out *market investigations* of advanced telecommunications services in both these sectors. Our approach has been, rather than to obtain mass statistics from a large group of people who do not really understand what the services imply, to search for more well-based information from a selected group of people of varied backgrounds who are interested in the field and can consider it from different angles.

We have also endeavored to look into the *social impact of telecommunications* by establishing a group of technicians, economists and sociologists who work with external people from various institutions. This is a new and important activity in our Administration.

In addition to these architectual, technical, marketing and social studies we are concerned with the *policy* considerations on the future role of the Administration. This matter is being discussed with other administrations, both in the Nordic and CEPT fora. Principally, there are three possibilities:

1) Status quo, by trying to maintain the traditional tasks of transmission and switching for existing and new services.
2) Complementing the services by offering data processing and data bases together with a wide choice of advanced terminals.
3) Supplement 2) by further offering the clients complete systems including administrative and office rationalization.

The choice between these possibilities depends upon many factors: finances, manning, regional development and industrial policy, to mention some, which shall not be elaborated on here. But it is important to study and become aware of their consequencies both for the Telecommunications Administration and the society as a whole.

The technical development open many new challenges for the telecommunications administrations, but also for competitors with increasing abilities to meet alternatives to our traditional services. If a vacuum occurs, there will be forces to fill it, in spite of present monopoly situations. We have analogies from Hollywood which almost went bankrupt because they based themselves on the particular *technique* of the film, rather than to realize that their business was the *service* of entertainment, or the coal dealer who concentrated on the particular *medium* coal and too late discovered that his business ought to have been energy *in general*, as the oil companies do today.

We started work on *satellite communications* as early as 1969 in connection with a study of systems for *maritime* use. This has enabled Norway to take active part in the international negotiations and specifications concerning INMARSAT, which now is becoming a reality. As a result of our further studies Norway, as the first country in Western Europe, established in 1976 a national system for telecommunications via satellites between the *oil fields* in the North Sea and an earth station at Stavanger. The satellite transponder is rented from INTELSAT. We have carried out experiments as a basis for planning an extension of the system to *Svalbard* (Spitzbergen) and proven that this is feasible in spite of the high latitude 78°N. Small earth stations have been developed and installed at our building, Svalbard and five other places for propagation measurements of signals from ESA's Orbital Test Satellite OTS. Studies of the use of satellites *within the national network* are in progress, and show that we have to await future generations of satellites, which can work with smaller earth stations than the present ones, for this to be a viable solution. A group of engineers from Denmark, Finland, Norway and Sweden is now stationed in our Department for a joint study of a Nordic satellite system for *television broadcasting*.

Existing methods for finding the *optimum structure and dimensions* for both the local and the trunk networks are rather elaborate and timeconsuming. We have therefore developed a computer program for planning of analog local networks and are now proceeding with similar programs for digital local networks and the trunk network.

Studies of a nation-wide *network control and management system* have been the basis for an invitation for bids, which now are being evaluated. The system will make use of multiprocessors for an integrated operational control of traffic, transmission and switching.

Our activities concerning *reliability* cover a wide range from detailed investigations of particular components in the existing systems to the establishment of an overall reliability plan for the future network. This work involves both laboratory measurements and theoretical studies. It is of great economic and qualitative importance to obtain an optimum allocation of reliability on the different parts of a network. We are therefore specifying well-defined and comparable reliability parameters for the various components.

Traffic engineering studies are in progress both for improving existing system and for planning new ones. Measuring methods for establishing the characteristics of telephone traffic have been studied, and the results are being used for obtaining a balanced dimensioning of the various organs in the switching systems.

Due to the steady increase in the *land mobile telephone service* both within the countries and across their borders, Denmark, Finland, Norway and Sweden decided in 1974 to jointly specify a new automatic system which gradually can replace their present manual systems. One of the requirements in the new system is that a mobile subscriber who has been allocated a number in his home area, shall be reached on this number irrespective of where in the four countries he is. We have contributed to this work by developing the complede system software, including that for the exchanges. The total investment of the system is divided between 5% for the radio base stations, 8% for the exchanges and 87% for the subscriber equipment. In order to ensure that suitable subscriber equipment will be available, we have also been engaged in working out its specifications and are closely following the industrial development.

A new standard *telephone apparatus* has just been developed and is undergoing field trials. It is of modern design for both desktop and wall, will be offered in different colors, supplied with push buttoms and have very good telephonometric characteristics. Furthermore, various special features can be built in, such as loadspeaker, counter display, etc.

A new outdoor *telephone kiosk* is being developed, and much consideration is here given to the requirements of handicapped persons.

The Research & Development Department is naturally also heavily engaged in many aspects of the *long-range planning*.

Conclusion

The research & development activities in the Norwegian Telecommunications Administration have passed thorugh its first decennium, and the Research & Development Department has established itself as a well-respected *architect* and *catalyst*.

Our task is both challenging and interesting, because *the future has already started, and it is not what it used to be.*

CSO: 5500 END

JPRS 76643

17 October 1980

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 135

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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DPRK, MOZAMBIQUE BROADCAST ACCORD--Pyongyang, October 3 (KCNA)--An agreement on cooperation in broadcasting between the DPRK radio and television broadcasting committee and the broadcasting station of the People's Republic of Mozambique was signed on September 26 in Maputo, according to a report. The agreement was signed on our side by the DPRK ambassador to Mozambique and on the Mozambican side by the acting director of the Mozambican broadcasting station. [Text] [SK030447 Pyongyang KCNA in English 0358 GMT 3 Oct 80]

PRC-FRANCE RADIO AGREEMENT--A 2-year agreement was signed yesterday between Radio France and the Chinese radio. It is a matter of cultural, journalistic and musical cooperation. This linkup between Radio France and Radio Beijing over the radio waves was welcomed by the Chinese representatives. [Begin recording of unidentified voice in Chinese, with superimposed French translation] At present, the international situation is more agitated and more tense. We are all conscious of the fact that in the fight against hegemonism and for the safety of world peace and for the building of our respective countries it is necessary to reinforce our cooperation. The agreement just signed reflects, in fact, this firm will and marks the entry into a new stage of our cooperation in the field of broadcasting. The fact that this agreement should be signed just before the visit of President Giscard d'Estaing to China is quite special in significance. I express my great pleasure and congratulations in this respect. Finally, I express the wish that our cooperation should develop without interruption. [end recording] [Text] [LD041440 Paris Domestic Service in French 1200 GMT 4 Oct 80]

AFGHAN, CUBA SIGN AGREEMENT--An agreement to exchange information regarding politics, economics and social and cultural events between the Bakhtar News Agency [BNA] and the PRENSA LATINA agency of Cuba was signed in Kabul today. The agreement was signed for Afghanistan by Dr Haider Mas'ud, deputy for publications in the Democratic Republic of Afghanistan Ministry of Culture and Information, and for Cuba by Raul Garcia Pelaez, the Cuban ambassador in Kabul, and the relevant documents exchanged. During the signing of the agreement the director of BNA and some directors and staff members of the Ministry of Culture and Information were also present. As a result of this agreement PRENSA LATINA, which is known as PL, from time to time will prepare for BNA reports on main current events together with documents, and BNA in turn will provide authentic documents, bulletins and photos for PRENSA LATINA. [Text] [LD071757 Kabul Domestic Service in Pashto 1530 GMT 07 Oct 80]

CSO: 5500

T&T OFFICIALS URGED TO IMPROVE TELECOM SERVICES

Dacca THE BANGLADESH TIMES in English 19 Aug 80 pp 1, 8

[Text] Minister for Posts, Telegraphs and Telephones Mr Mayeedul Islam stressed on maintaining the telegraph and telephone system properly.

The Minister was addressing the conference of General Managers, Divisional Engineers, Subdivisional Officers and other officials of the Telegraph and Telephone Board on Monday at Dacca.

Mr Islam told the officers to improve the services of telecommunication system in the country. He regretted that the standard of service had deteriorated and asked the officers to take immediate steps for its betterment. He told them to speedily replace the worn out outdate teleprinter machines phase wise. [as published]

The Minister said that due to wrong planning in the past telephone and telegraph installations were not being utilised fully. He said that measures had been taken to readjust and utilise the capacity as far as possible.

Referring to the telephone bills the Minister said that up-todate and accurate bills should be prepared so that confidence was created among the subscribers. [as published] He appreciated the improved services of overseas telegraph and telephone services through satellite. He also appreciated the role of the T&T for providing life-photo to the television through satellite. This had improved the standard of the news service of the television.

Mr Mayeedul Islam also advised the officials to be polite in dealing with the members of public.

CSO: 5500

INFORMATION MINISTRY PLANS TV NETWORK EXPANSION

Bombay THE TIMES OF INDIA in English 16 Aug 80 p 1

[Text] New Delhi, August 15.

Doordarshan proposes to work out a low cost solution to the growing demand for TV centres from many parts of the country.

It favours renting out P and T microwave links exclusively for its use on trunk routes where relay transmitters could be set up. These transmitters could relay programmes from the TV centres on the same language zone.

Thus a relay transmitter in Indore or Nasik on the Delhi-Bombay route can relay to viewers within its range programmes from the stations in the two metropolitan cities.

The capital cost of a relay transmitter is estimated at Rs. 1.75 crores. The recurring expenditures every year would be around Rs. 10 lakhs in addition to the rent to be paid to the P and T.

Doordarshan has reportedly identified 49 such pontential centres for relay transmitters. At least eight would be included in the sixth plan.

It was ten years ago that the P and T launched microwave link programme that would cover the entire country. Primarily for communication purposes, these could be engineered for transmission of TV programmes with some incremental cost.

The P and T has been asked to provide microwave links on the routes between Delhi and Bombay, Calcutta and Srinagar, and Bombay and Madras. The Madras-Bombay circuit is complete. This will facilitate setting up relay transmitters at Mysore and Mangalore.

The circuits connecting Delhi with Bombay and Calcutta are expected to be ready in three to four months. An immediate advantage would be the facility to relay live by one station the programmes presented by the other. A national TV hook-up could be established when all the microwave routes are complete.

An immediate beneficial fall-out from the aerial links, where these are already complete, will be the capability for relay transmitters.

Apart from the relay scheme, the information ministry will discuss with the concerned agencies, TV expansion plans through INSAT, establishment of TV centres at the capitals of states and Union territories and a project to provide service to about ten centres which do not fall under any of these categories.

TV centres have already been approved for Kasauli, Jammu, Ajmer, Ahmedabad, Panaji, Trivandrum, Madurai, Vijayawada, Cuttack, Asanol and Varanasi.

Even so, the expansion programme falls far short of the demand. For, completion of the approved projects, television service will be available only in 13 states and two Union territories. [as published]

CSO: 5500

HIGHER OUTLAY NEEDED FOR RURAL TV DEVELOPMENT

Bombay THE TIMES OF INDIA in English 29 Jul 80 p 6

[Article by P. C. Chatterji, former director-general, All India Radio)

[Text] So now we are told that colour TV is necessary for rural development. Without colour, the TV instructional programmes for the rural people cannot be convincing because they are not vivid. And then it is being argued that investment in colour will not be much higher than that required for black and white.

Only five years ago when SITE was being inaugurated, the TV screen was regarded as the magic wand which would bring about social change. Somehow SITE seems to have been forgotten in less than half a decade. Prior to that, in the late 'fifties when radio rural forums came into existence, we were asked to pin our hopes on radio as the agency which would usher in a new world. That euphoria too blew over.

Before we examine what can legitimately be expected of TV in the field of development, we should scrutinize the need and the cost of going in for colour. In a sense the problem is at our doorstep already. International technology sets the pace and closes the options. I understand that 16 mm raw stock, which is wholly imported, is not going to be available in monochrome in a few months. Only colour film will now be produced. Of course we can use the colour raw stock and continue to see the films only in black and white. This means loss on two accounts. The colour raw stock is considerably more expensive and showing it in black and white would mean that we will not get any benefit from the additional cost. However, this is a problem which we would share with many affluent countries, where despite transmission in colour, black and white receivers continue to be used because people cannot afford the additional cost of the colour set. In our case the additional cost will have to be borne by Doordarshan and a few documentary producers working in 16 mm.

Merit

If not today, then certainly within the next five to six years spare parts for black and white transmissions, studio hardware, and possibly domestic receivers, will also not be available. So, the argument is, why not go in for colour today when in the next few years we will be forced to do so anyway? Further investment in black and white TV will be infructuous in the not so long run. [as published]

There is, indeed, a good deal of merit in this argument. The issue that the country really needs to face is the cost of TV in any shade. There is no point in continuing to bluff ourselves and leaving Doordarshan with resources which led the Verghese working group to remark on "what equally impressed members was the fact brought home time and again of how much had so often been accomplished with so little. It was well said that some of the television transmissions put on the air by Doordarshan constitute nothing less than a daily miracle." Page 11, para 1.7 of the report.

It is a common tendency to underestimate costs at the planning stage. For example, it is being argued that in the sixth plan Doordarshan was providing Rs 1.75 crore for each transmitter. The additional expense on equipment necessary for colour transmission such as a colour monitor, colour sinc generator etc. would only add a few lakhs to this figure. May be the total might come to Rs 2 crores. For studios, Doordarshan had provided Rs 5 crores per centre for black and white. With colour an additional crore would be required.

Studio Complex

While the figure for the transmitter might be correct, it must be noted that an investment of Rs 6 crores will give us only a one studio complex. Colour cameras, colour videotape recorders and colour monitors are the main items which will consume the additional crore of rupees. But colour requires larger studios and far more sophisticated lighting and graphics and one wonders if these factors have been taken into account.

However, the basic fact to remember is that only one studio will be provided--to start with, we are told. There will be a second phase, when the studio and other shortages will be made good. We have heard that story before. Bombay started with one studio in 1972 and it took six or seven years before another could be added--and that too is unsatisfactory. Calcutta and Lucknow have been operating with one makeshift studio since 1975 and there are no signs of any additions in the immedite future. What can one expect from a single studio set-up--two-and-a-half hours of transmission as in Lucknow, stretched to three hours in Calcutta.

When the fifth plan was being formulated it had been proposed by AIR that future TV centres should be three-studio complexes. At current prices in colour such a centre would cost in the neighbourhood of Rs 12 crores. However, with three hours of transmission, which audience will Doordarshan succeed in satisfying? Will there really be significant time for krishi darshan, schoolchildren and for the economically and socially deprived? And what about the so-called urban elite, the vast majority of licence holders?

We learn that in the initial phase, there will be few studio-based programmes and a good deal of the production will be out of doors. But one cannot be expected to take this explanation at its face value. If Doordarshan has been weak on the studio side, its resources for outdoor coverage are even poorer. TV news, with its radio bulletin read out on the screen, is a daily reminder of this reality.

This brings us to the price of the TV receiver. The minister for information and broadcasting was recently quoted as having said that a colour TV set would cost Rs 4,500 as against the current cost of Rs 2,000 for a black and white set. But the estimated cost of the colour set is that with a 20-inch screen while the black and white receiver mentioned has a 24-inch screen. Moreover the cost of the colour set excludes customs and excise duties. Perhaps the finance ministry will exempt colour TV sets from excise and customs duty.

According to the minister's statement, villages in future will be provided colour sets. Experience during SITE showed that even the 24-inch screen does not make it possible to have an effective audience of much more than 100 persons. So colour TV sets with a 20-inch screen cannot serve the purpose. Villages will have to be provided receivers with a 24-inch screen. These will cost at least Rs. 6,000, against two thousand rupees for the black and white set now. Is the government likely to sanction the additional money required to provide TV sets in a reasonable number of villages at this place?

Faced

One can only argue on the basis of past records. Since SITE which ended over four overs ago [as published], only 40 per cent of the villages have been covered by the terrestrial transmitters and about one thousand receivers have been distributed in the villages. These terrestrial transmitters cover some eight thousand villages which did not fall within the SITE clusters. How many of these villages have been provided with community viewing sets? No definite answer seems to be available, and who will bear the cost of the sets and be responsible for their maintenance? The centre or the states? This question too, has not yet been settled. Indeed, there is no provision for the additional expenditure in the current plan. Incidentally, according to the latest official figures there are less than 9 lakh TV receivers in the country as a whole.

If TV is to become a real force for change, certain facts have to be faced. At least one TV receiver will have to be provided in a reasonable proportion of the six lakh villages of India, and in the larger villages two or three would be needed. There will have to be a proper system of maintenance as the Indian Space Research Organisation had established during SITE. Otherwise the whole thing will die a natural death as did community listening for radio. Reasonable transmission and production facilities will be required. In the sixth plan, the total outlay for Doordharshan is Rs 50 crores. It provides for only three new TV centres (Bangalore, Trivandrum and Ahmedabad) and nine transmitters and three base production centres.

The annual sanction under the plan was Rs six crores in 1979-80 and is just a little higher for 1980-81. On such a financial and operational base Doordarshan is hardly likely to be in a position to play a role in Indian development.

CSO: 5500

BRIEFS

SATELLITE TO BE LAUNCHED--India's first geostationary experimental communication satellite Apple will soon be airlifted to France by the Indian Space Research Organization Satellite Center, Bangalore. This was disclosed by project director Dr R.N. Vasudam in Bangalore today. He said the satellite will undergo further tests before it is launched from the French Guyanese Space Center early next year. [Text] [BK221034 Delhi Overseas Service in English 0830 GMT 22 Sep 80]

BHASKAR II SATELLITE--Bhaskar II satellite, an improved version of Bhaskar I, is nearing completion. It is expected to be launched in space by the middle of next year. In the light of experience gained from the operation of Bhaskar I satellite, several modifications are being made to overcome operational problems in switching on the TV cameras and also to improve the utilization of the spacecraft within the constraints of time schedule. [Text] [BK200852 Delhi Domestic Service in English 0830 GMT 20 Sep 80]

INFORMATION MINISTER VISITS BELGRADE--Belgrade, 7 Oct (TANJUG)--Indian minister of information Vasant Sathe arrived in Belgrade today at the invitation of the Yugoslav federal government. On arriving, Minister Sathe stated that during his stay in Yugoslavia he will hold talks also on inter-news-agency cooperation within the non-aligned countries' news-agency pool. A protocol on cooperation in the field of information between Yugoslavia and India will be signed during the Indian information minister's visit. [Text] [LD080001 Belgrade TANJUG in English 1945 GMT 7 Oct 80]

NEW MICROWAVE LINK--A two-way microwave "troposcatter" communication link has been established between the Indian Institute of Technology Delhi and the Central Electronics Engineering Research Institute Pilani. It is the first such link in the country meant for research and educational purposes. According to a press statement of the IIT. The Delhi terminal, weighing about three tonnes was airlifted to the top floor of the IIT building by an Indian Air Force helicopter in August last year. [Text] [New Delhi PATRIOT in English 27 Jul 80 p 7]

CSO: 5500

BRIEFS

TELEVISION RELAY STATIONS--Four television relay stations will be set up in West Sumatra and are expected to be completed before the 1982 general elections. The relay stations will be set up at (Bukit Tarai) south of Padang, Painan, Siberut Island of the Mentawai Islands group and West Pasaman District. [BK010303 Jakarta Domestic Service in Indonesian 1200 GMT 27 Sep 80]

MINI EARTH STATIONS--The first region telecommunications corporation in North Sumatra and Aceh has targeted the construction of seven mini earth stations in Aceh which will be completed before the general elections in 1982. The mini stations will be constructed in Sinabang, Tapartuan, Heulaboh, (?Kutacane), Takeungon and Belangpidie. [BK010303 Jakarta Domestic Service in Indonesian 0700 GMT 30 Sep 80]

CSO: 5500

BRIEFS

TOSHIBA MICROCOMPUTER--Tokyo, 19 Sep (KYODO)--Toshiba Corp has developed what is claimed to be the world's most efficient microcomputer capable of speedily processing more data than conventional types by using large-scale integrations (LSI) based on sapphire instead of silicone. Toshiba has thus become Japan's first firm to apply sapphire substrate LSI in a microcomputer, simplifying LSI's complicated logic circuit. Called silicone on sapphire (SOS), the LSI has an operation speed two or three times faster than the LSI of silicone substrate, which is now used in Japan. Moreover, its integration is some 30 percent better, Toshiba officials said. Officials said that the new microcomputer named T88000 having 16 bits is capable of memorizing about 16 million letters and processing 2.5 million instructions per second. The company plans to use the new device for business and industrial use. The new LSI will be priced at yen 20,000 to yen 60,000 per unit. [Text] [Tokyo KYODO in English 0528 GMT 19 Sep 80 OW]

CSO: 5500

VIEWDATA INFORMATION SYSTEM GIVEN CAUTIOUS APPROVAL

Advisory Council Report

Auckland THE NEW ZEALAND HERALD in English 2 Sep 80 p 5

/Report by the HERALD's Wellington Bureau/

/Text/ Viewdata, the new electronic information system, has been given cautious, small-scale approval.

But the Government has asked its communications advisory council to prepare a second report before any large viewdata operation is approved.

Two schemes for viewdata systems have already been announced and the council's preliminary report on the subject, which the Government asked for urgently last April, has now been published.

Viewdata is a system where subscribers can call up information on a host of subjects on to their television screens through a special adaptor.

Promoted

It operates from central computer storage banks through the telephone system. Subscribers get the information sought by operating a calculator-like keyboard.

The system is being promoted by two companies. One is a consortium of newspaper, computer and electronics firms which includes Wilson and Horton Ltd, publisher of the Herald, and the other is Fourth Estate Holdings Ltd, which publishes the National Business Review.

Viewdata is already used in Britain, where a system called Prestel is operated by the Post Office. West Germany is planning an advanced Prestel system and other countries are also looking at schemes.

When the Government learnt of the two New Zealand schemes, it asked the communications advisory council — formed in 1977 to advise on long-term telecommunications policy — to make an urgent report on the subject.

This report will be published today and should be on sale at Government Bookshops shortly. The Minister of Broadcasting, Mr Templeton, wants interested parties to read the report and make submissions on it to the council within three months.

Endorsement

In the meantime, Mr Templeton says that any viewdata scheme launched would not be permitted to grow beyond the limited scale recommended by the council until the second report is finished.

By this, Mr Templeton is giving Government endorsement to the council's recommendations.

The report recommends that a limited viewdata system should begin, but before any major expansion, the council should make a study of the social, business, manufacturing and privacy consequences of viewdata.

In its report, the council states strongly that there should be no monopoly — either state or private enterprise — of viewdata services

The council says the system should be designed so subscribers can gain access to the central computers of either state or private services, which would mean a standard technology for all operators.

The widest New Zealand manufacturing content should be used from the outset.

Viewdata subscribers would be billed for each "call" made for information through the Post Office billing system, the report says.

Dangers

Noting that unions reacted harshly to plans to start viewdata, the report says: "It is difficult to see that there are real dangers of viewdata causing significant unemployment" under plans for a small, business-oriented scheme.

The report says there are special dangers in allowing either a state or private monopoly to emerge in viewdata.

"To allow one person or organisation to select what will or will not be stored or to select who will or will not be allowed access carries so many obvious dangers the case against monopoly need hardly be argued."

Some form of general privacy legislation might be needed with viewdata, the report says, because of the difficulties people or companies might have finding out what information about them is stored on the system.

"The problem may be the more acute because the information is stored in magnetic tape or disc form and proof of defamation, or invasion of privacy, may be more difficult to obtain."

Additional Details

Wellington THE EVENING POST in English 2 Sep 80 p 17

/Excerpts/ The council heard and analysed 45 submissions on this issue. The report, released today, is the result of these and the council's own deliberations.

The report has been released on the recommendation of the council, which felt that there is a need for better public understanding of Viewdata.

The council described Viewdata as a new form of information publishing which has a potential to be developed to become a "powerful means of communication capable of replacing many existing communication services."

It stressed in the report, however, that unrestrained and unco-ordinated development could have a serious adverse impact on the Post Office telecommunications network, and could involve major capital investment by the Post Office.

The report said that while a limited service could be provided without prejudice to longer-term developments, and the technology existed for the immediate introduction of a limited scale Viewdata service, there would be a need for standards to be established. A co-ordinated public and private sector approach would be needed and the connection to the telephone network should be through a Post Office Viewdata access switch.

The Post Office Act 1959 included adequate provision for the administration of a Viewdata service operating over the Post Office telecommunications network, according to the council.

The council does recommend though that Post Office regulations be amended to provide for the setting of conditions for the connection of Viewdata systems and terminals to the telephone network, for the setting of charges, and allowed the Director-General to refuse the connection of equipment that does not comply with an agreed New Zealand standard.

Questions relating to privacy, and the protection of citizens and companies against the storage, retrieval, and sale of information on the Viewdata system which may be damaging or an invasion of privacy, would have to be looked at to see if legislative action was needed, the report said.

The council favoured the Bundespost Viewdata service that is being developed in West Germany.

The report recommends that the council be appointed to undertake further study into Viewdata and report back on the social, business, economic, manufacturing, and privacy consequences of the introduction of Viewdata, taking into account any public comment arising from the publication of this report.

In a statement released with the report the chairman of the Cabinet Committee on Communications (Mr Templeton) commended the council for its caution and its work.

"The enormous potential of this new concept in communications means we must be extremely careful. We must do everything we can to ensure that Viewdata will remain just a superbly efficient method of distributing information."

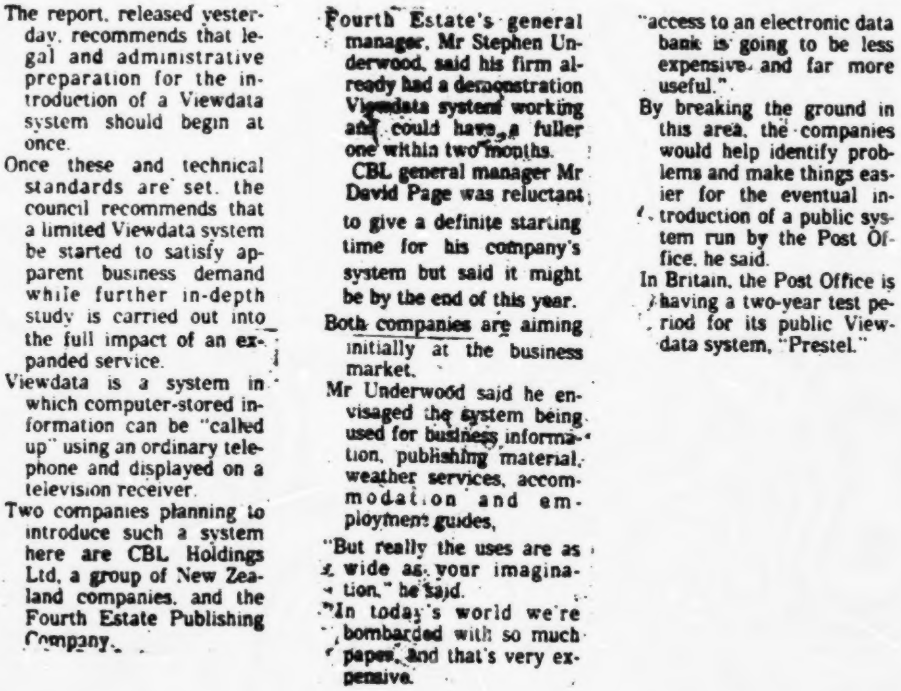
Mr Templeton said the publication of the report was to stimulate public debate and the report would be sold for $1.50 by Government bookshops.

He said anyone interested in making submissions should write to the chairman of the council at PO Box 1773, Wellington, within the next three months.

Two Companies Involved

Wellington THE EVENING POST in English 3 Sep 80 p 12

/Text/ Two companies planning to introduce Viewdata information systems to New Zealand see the Communications Advisory Council's report on the subject as a go-ahead.



The report, released yesterday, recommends that legal and administrative preparation for the introduction of a Viewdata system should begin at once.

Once these and technical standards are set, the council recommends that a limited Viewdata system be started to satisfy apparent business demand while further in-depth study is carried out into the full impact of an expanded service.

Viewdata is a system in which computer-stored information can be "called up" using an ordinary telephone and displayed on a television receiver.

Two companies planning to introduce such a system here are CBL Holdings Ltd, a group of New Zealand companies, and the Fourth Estate Publishing Company.

Fourth Estate's general manager, Mr Stephen Underwood, said his firm already had a demonstration Viewdata system working and could have a fuller one within two months.

CBL general manager Mr David Page was reluctant to give a definite starting time for his company's system but said it might be by the end of this year.

Both companies are aiming initially at the business market.

Mr Underwood said he envisaged the system being used for business information, publishing material, weather services, accommodation and employment guides,

"But really the uses are as wide as your imagination," he said.

"In today's world we're bombarded with so much paper, and that's very expensive.

"access to an electronic data bank is going to be less expensive and far more useful."

By breaking the ground in this area, the companies would help identify problems and make things easier for the eventual introduction of a public system run by the Post Office, he said.

In Britain, the Post Office is having a two-year test period for its public Viewdata system, "Prestel."

CSO: 5500

LAHORE TO HAVE 6,000-LINE ELECTRONIC EXCHANGE

Islamabad THE MUSLIM in English 29 Sep 80 p 8

[Text]

LAHORE, Sept. 28: The first 6000 line local electronic telephone exchange is ready for commissioning and will go into operation after a go-ahead signal from the Directorate-General Telephones Islamabad. The equipment for this computerised exchange has been imported from Nippon Electric Company Japan. The total cost is estimated at Rs.60 million including a foreign exchange component of Rs.40 million.

After formal commissioning, it would cater the requirements of a large number of people living in the areas including Regal Chowk, Canal Bank, Temple Road, Chowk, Kurtba, Queens Road, Lawrence Road, Race Course Road, Gor, Shahra-i-Quaid-i-Azam, Allama Iqbal Road, Zaman Park, Bochwala Chowk, Empress Road, Nicholson Road, McLeod Road, and Chowk Lakshmi.

Reliable sources told The Muslim here today that the demand for 1000 new connections had already been cleared. The demand notices had been issued to 300 persons out of which only 150 had so far deposited the money required for the installation of telephones.

The exchange has central processor unit which could handle 20,000 lines if need be. Of the 6,000 lines, 1,200 had the provision of push button system while the remaining would function on rotary dial system. For the push button system, the subscriber would have to bear an additional expense of Rs.100. The exchange has also the provision of additional facilities like absentee dialing call for warding call waiting and wake-up service.

It is understood that the subscriber would have to pay Rs.100 plus Rs50 for each special service. The system of billing would also be changed altogether. Two bills would be sent to the subscriber one would be for the local calls made during the month and other would be for long distance calls.

This exchange has the services of 12 engineers who have recently returned to Pakistan after undergoing six months training in Japan.

CSO: 5500

PEOPLE'S REPUBLIC OF CHINA

BRIEFS

FUJIAN TELECOMMUNICATIONS--Fuzhou, 2 Oct (XINHUA)--A new integrated circuit telephone exchange that can handle 10,000 telephones has gone into use in Fuzhou, capital of Fujian Province. In Southeast China, this will improve the province's telecommunications facilities. An automatic exchange has been installed in Xiamen, a major coastal city in the province. A long-distance communication symmetric cable carrier wave, which runs from Zhangzhou city, is under construction. The section from Fuzhou has already gone into use. When the project is completed, Fuzhou to Putian, Quanzhou, Xiamen, Zhangzhou and other coastal cities and countries will open long-distance automatic or semi-automatic dialing. [sentence as received] Apart from installing China-made automatic exchanges, Fuzhou plans to import advanced telecommunication equipment. Fujian Province plans to build a microwave circuit that runs from Fuzhou to the southern part of the province and a satellite communication ground station. [Text] [OW051145 Beijing XINHUA in English 0742 GMT 2 Oct 80]

GUANGDONG MILITARY TELECOMMUNICATIONS--From 10 to 16 September, the Guangdong Military District held the first telecommunications competition among militiamen in Guangzhou. Taking part in the competition were 64 male and female militiamen from all parts of the province. The participants have all reached the standard stipulated by the general staff on the military training program for militia. [Guangzhou Guangdong Provincial Service in Mandarin 2345 GMT 16 Sep 80 HK]

CSO: 5500

SOUTH KOREA

BRIEFS

KUMSAN SATELLITE STATION--Seoul, Oct 2 (HAPTONG)--Transmission at the satellite station in Kumsan, South Chungchong Province, is expected to suffer from temporary obstruction between the period October 4-8 due to the Dellinger phenomenon, the Communication Ministry announced today. The phenomenon, which occurs about twice a year, is likely to cause the weakening of tone quality and raise the noise level, the ministry said. The disturbances are expected to occur at the following times: Oct 4, hour 17:04 - 17:06; Oct 5, 17:00 - 17:07; Oct 6, 16:59 - 17:07; Oct 7, 17:00 - 17:07; Oct 8, 17:00 - 17:06. [Text] [SK020259 Seoul HAPTONG in English 0232 GMT 2 Oct 80]

CSO: 5500

BRIEFS

DEUTSCHE WELLE AID ACCORD--Under an agreement signed between the Sri Lanka Broadcasting Corporation [SLBC] and Deutsche Welle, the Federal Republic of Germany has set aside a sum of approximately 12,000,000 German marks for the development of radio broadcasting in Sri Lanka. The extensive project will cover the construction of new stations, including 13 new transmitters, in Kantalai, Ambawela, Mahiyangana, Ratnapura and Kirimediyakanda and the extension of stations in Jaffna, Mannar, Amparai, Kandy, Maho and Weeraketiya. In addition technical personnel from the SLBC will be sent to Germany for training. [Text] [Colombo SUN in English 17 Sep 80 p 1]

CSO: 5500

BRIEFS

TELECOMMUNICATIONS DEVELOPMENT--Taipei, 25 Sep (CNA)--The government is planning to invest NT $306 billion in the next 10 years in telecommunications development, said an official of the Directorate General of Telecommunications of the Ministry of Communications. The official said that the amount is four times higher than the investment amount in telecommunication development in the past 10 years. Of the total amount, NT $208.9 billion or 68 percent will be used to install more telephone sets in urban areas, NT $47 billion or 15 percent to modernize telecommunication facilities, and the balance will be used to train more technicians and conduct research projects, the official said. [Text] [Taipei CNA in English 0231 GMT 25 Sep 80 OW]

CSO: 5500

BRIEFS

MICROWAVE COMMUNICATIONS LINKS--The national telecommunications company is now connected with the southern microwave system linking Santa Cruz, Chuquisaca, Tarija and Potosi. [La Paz PRESENCIA in Spanish 27 Sep 80 p 4 PY]

CSO: 5500

BRIEFS

RADIO STATION AUTHORIZED--Radio Cruceiro of Barra do Bugres has been licensed to operate a radio station on mediumwave for regional purposes in the city of Barra do Bugres, Mato Grosso do Sul State. [Brasilia Domestic Service in Portuguese 2200 GMT 18 Aug 80]

CSO: 5500

NEW BROADCASTING SYSTEM INAUGURATED

FL292020 Bridgetown ADVOCATE-NEWS in English 26 Aug 80 p 3

[Text] Georgetown, Guyana, Monday (CANA)--A four-page supplement on the Guyana Broadcasting Corporation (GBC) has been published here in an obvious effort to bolster the image of the state-owned radio enterprise.

The supplement in the CHRONICLE newspaper details the inauguration of the one-station-two-channel broadcasting system this year, replacing Radio Demerara (now channel 1) and the Guyana Broadcasting Service (now channel 2).

Channel 1 is GBC's "General Service" medium-wave station, placing special emphasis on national, Caribbean and international developments.

Channel 2 serves as the corporation's "regional short-wave" radio, "bringing on the air the voice of the rural dwellers and reflecting more fully the fact that there is a lot of on-going development in the region," according to the supplement.

The new system, restructured to ensure the smooth introduction of television early next year, is also expected to improve radio service to the entire nation, GBC executive chairman Lamber Philadelphia says.

The new system is designed "to produce" through the broadcasting media, programme material which recognises our cultural diversity and advances our national, social, economic and political objectives through information, education and entertainment programming for both the rural and urban areas of Guyana, the CHRONICLE reports.

The two-channel service is the latest development in radio here, when the history of broadcasting goes back nearly 60 years with the establishment in 1926 of the British empire's first radio station.

CSO: 5500

CTI INSTALLED IN NIGER AS PART OF PANAFTEL NETWORK

Niamey SAHEL HEBDO in French 25 Aug 80 pp 20-21

[Article by ASKO: "The International Transit Center

[Text] The means of connecting a country to the world are not only made up of its paved roads, its railroads. There is also its system of mail and telecommunications.

For this reason important projects have been carried out in this framework, and others are under construction, notably the CTI [International Transit Center]. To learn more about this, we met with Mr Abba Mahamane, director of telecommunications.

The installation of a CTI (International Transit Center) network in Niger has been decided on by reason of the development of the PANAFTEL networks. The CTI transmission networks, financed by the Canadian Government, bring together the five countries of the sub-region: Benin, Upper Volta, Senegal, Niger, and Mali. Originally, the system only concerned the transmission arteries, but what people call the CTI's are also those which can transmit automatic communications from one country to the other. It was for this reason that Niger, Benin, and Mali decided on the installation of an International Transit Center.

The CTI not only has the function of interregional transit but also that of automatic, intercontinental transit. It does the same thing for certain domestic communications. The CTI is provided with signalling code--a language which is called R2--which will be used for the central switchboards of Niger, and Code 5 is used by the intercontinental service.

Access to the R2 automatic system to transmit from the interior of Niger to France, for example, is available in the following way: the caller dials a double zero (00) accompanied by the number of the country he is calling. To call at the regional level, to Benin or Senegal, for example, the caller dials one zero (0), followed by a code number, and then the number of the country he is calling.

Originally, it was intended to have 220 circuits, but because of the addition of the network of the northern region, this number has been raised to 423 circuits. The cost of the equipment for this project is 382 million CFA Francs, financed by the Government of Canada. The building will come to 312 million CFA Francs, with a contribution of $500,000 [not clear whether US or Canadian dollars] by Canada. This building, which will cover 187 m^2, will also provide space for the Telex Center of Niamey.

Prospects

In the framework of the 3-year plan, the installation of regional work centers was provided for in Zinder, Maradi, Tahoua, and Dosso. Between now and the end of March, 1981, these centers will enter into service. Within the same plan the extension of the centers in Niamey and Maradi is provided for, and the work will be completed in a few months.

In the framework of the 5-year plan the construction of the network of the northern region is provided for. This is a network using a domestic satellite which will connect Agadez and Diffa. It is a project which is well under way and equally will serve the domestic television service. The project as a whole will be completed in 1981, and television will be available, beginning in March, coming from Diffa and Agadez.

In the international context, with the relay station of the northern region, a standard A earth station is planned to strengthen the means of international telecommunications. The PANAFTEL network which is under construction--the transmission artery connecting Benin to Senegal while passing through the other countries of the sub-region--should, in principle, be completed in March, 1981.

Training of Personnel

The construction of these projects is moving along in synchronization with the training of personnel. Working level personnel are trained at the National Public Works Center. Higher level personnel are trained, either at Rufisque (Multinational School of Postal and Telecommunications Services) in Senegal or at Toulouse, in France. Considerable efforts have been made to train senior level postal and telecommunications personnel. In addition to these long training programs, there is on the job training at the construction sites and on the equipment which the personnel will use after completion of the projects. The requirements for personnel in this area are immense.

Independent of the previously mentioned projects is the Telex Center of Niamey, which is being built and should be practically finished in March, 1981. As of that date communications with the departments of Maradi, Zinder, Dosso, Agadez, and Diffa will be handled automatically and, in principle, with no problems. These regional centers will have automatic access to Niamey and with international circuits.

There certainly are problems, Mr Abba Mamadou, director of telecommunications, told us. However, the state will try to resolve them. Our concern, added Mr Abba, is over installing the cables at Niamey and in the major centers of the country. We are doing our best to improve telecommunications in Niger, from the point of view of quality and reliability. Major investments have been made to reach that goal. He concluded that, for the moment, the telecommunications service of Niger, relative to that of the neighboring countries, is in a good position.

5170
CSO: 5500

BRIEFS

TELECOMMUNICATIONS SEMINAR--Addis Ababa (ENA)--A two-day seminar to familiarise the employees of the Telecommunications Service in Addis Ababa and its environs with the mission and functions of COPWE opened at the Ambassador Theatre here yesterday. Speaking at the opening ceremony of the seminar, Comrade Girmaw Engidayehu, Manager of the Telecommunications Service, told the participants to step up their struggle towards the fulfilment of COPWE's mission. He reminded them to work hard to enable the country realise its ongoing National Revolutionary Development Campaign goal. [Text] [Addis Ababa THE ETHIOPIAN HERALD in English 20 Sep 80 p 7]

CSO: 5500

MILITARY RADIO NETWORK CREATES BURGEONING ELECTRONICS INDUSTRY

Windhoek ALGEMEINE ZEITUNG in German 16 Sep 80 pp 1, 3

[Text] The establishment of MARNET (Military Area Radio Network), a radio alert system for farmers in the operational area, has created a market worth millions for the equipment. The same market has likewise given impetus to the start of a national electronics industry. A Windhoek firm has been selling, since early this year, MARNET equipment that meets with Defense and Post Office approval and is almost wholly manufactured in Luederitz Bay.

With nearly 600 interested farmers in the operational area and prices between 1,500 and 2,000 rands for each piece of equipment, the potential market for the MARNET system is estimated to be at least 1.2 million rands. Additional gear and installation costs, as well as interested farmers in the center and south of the country, could bring total demand up to 2 million rands. At present the government is subsidizing purchases in the operational area, with a maximum of R2,000 per farmer.

According to the manager of the "Outspan Radio" firm, the equipment manufactured in Luederitz Bay is 70 percent Namibian in origin, costwise. Parts do come from SA and abroad. They are assembled in Luederitz under the supervision of G. Schlorf. Especially noteworthy in this connection is the fact that certain aspects of the wiring diagram were designed here.

Thompson's Radio Firm has long manufactured small scale specialized equipment in Windhoek. But the MARNET system being sold by this and other firms originates in SA. Thompson says that the Thorcom-IS-gear was designed in SA and is manufactured in Johannesburg. The equipment is 85 percent South African since some components do need to be imported.

"It hasn't been a bed of roses," claimed Outspan Radio's manager in an interview with AZ [ALGEMEINE ZEITUNG]. A complicated licensing system and somewhat uneven coordination among consumers, Post Office and Defense caused manufacturing delays on a number of occasions. Mr Mueller denied that his firm had received active assistance from any department of government.

For those familiar with the local economy the start-up of a small electronics industry is a surprising development. With few exceptions Namibia's economy is limited to the extraction and production of raw materials. Only sporadically is there secondary processing of those raw materials. It is considered encouraging that private initiative is successfully competing with foreign firms in a relatively sophisticated branch of industry such as electronics. Asked by AZ whether such enterprises could become a factor in the economy, an expert replied that such enterprises must perforce remain small. A factory tailored for the local market and specializing in products for which there is sufficient local demand could probably make a go of it in Namibia.

A SWA-Agriculture Union (SWALU) circular last year recommended three firms as MARNET suppliers. One of the three firms, Rand Technics (Pty) Ltd., closed shortly after the recommendation. At the time the "Outspan Radio" firm wasn't on SWALU's recommendation list. Meantime the firm has manufactured nearly 125 radios.

Once the MARNET market is saturated, SWA/Namibia's small electronics industry, made possible by the introduction of the MARNET system, could turn to other products and so continue providing local jobs.

CSO: 5500

TWO NEW DIGITAL TELEPHONE SWITCHING SYSTEMS PLANNED

Johannesburg THE CITIZEN in English 25 Sep 80 p 14

[Text]

THE Post Office will next year introduce two of the most modern digital telephone switching systems in the world, the Minister of Posts and Telecommunications, Mr Hennie Smit, said yesterday.

Mr Smit was officially opening a new R283 000 Post Office building at Stilfontein.

The two new exchange systems, the German EWSD and the French E10 (or SA 128) will be introduced in the Johannesburg and Pretoria Areas.

This development would put South Africa ahead of many industrialised countries, the Minister said.

Telecommunications was one of the fastest growing branches of technology in the world, Mr Smit said.

Only seven years ago, all overseas calls were still routed via the undersea cable. Now, with three microwave antennae at Hartbebeesthoek, satellite transmission of international trunk calls and TV programmes was a reality.

Besides phasing in the fully electronic switching systems with their associated advantages, Mr Smit said, a number of new services were in the offing:

- Pushbutton telephones with built-in memories to facilitate switching procedures.
- Videotex, where the telephone will be connected to a TV set that will enable the user to draw on information from a central data bank. —Sapa.

CSO: 5500

'JOHANNESBURG RADIO' ON SOUTH WEST AFRICAN RADIO DEVELOPMENTS

LD021552 Johannesburg Domestic Service in English 1125 GMT 30 Sep

[Excerpts] The SWABC's two shortwave transmitters near Windhoek are to come into operation at six o'clock tomorrow morning, [0400 GMT].

The service will give blanket coverage and will be aimed specifically at listeners outside the FM reception areas. The single channel available will therefore be shared by the English, Afrikaans, German, Herero and Damara-Nama languages. Most of the programs on shortwave will be relayed from the FM channel and shortwave listeners are requested to tell people of other language groups about the new service.

Shortwave transmissions will be carried in the 60 and 90 meter bands in the mornings and evening sand in the 31 and 41 meter bands during the day.

The news bulletins broadcast on shortwave from Johannesburg for South West Africans end tomorrow. The SABC's shortwave service from Johannesburg will carry a Transvaal regional bulletin. There will also be an increase in local program content in English, German and Afrikaans from tomorrow, including a 10-minute news bulletin for German speakers at 7.30 in the evening [1730 GMT] on FM and shortwave.

Besides commercial spots to be carried on the SWABC's program services from tomorrow the all-night service goes on the air for the first time at midnight tomorrow until six in the morning [2200-0400 GMT]. This will consist mainly of music with announcements in English, Afrikaans and German and will be broadcast by all the FM and shortwave transmitters except on FM in Kavango.

With the introduction of the new service the SWABC will be on the air for 24 hours a day on all transmitters except those in Kavango.

The transmission of Springbok Radio programs on South West Africa's FM channel ends at six o'clock tomorrow morning [0400 GMT]. Springbok Radio has not been carried on shortwave by the SABC for some time.

CSO: 5500

SATELLITE EARTH STATION POSSIBLE IN 2 YEARS

Mbabane THE TIMES OF SWAZILAND in English 16 Sep 80 p 1

[Text]

SWAZILAND may have a Satellite Earth Station, probably within the next two years, according to the Director in the Department of Posts and Telecommunications, Mr John Sikhondze.

Addressing a seminar organised by the Royal Swaziland Society of Science and Technology at the Swaziland College of Technology at the weekend, Mr. Sikhondze also disclosed that recently his department embarked on a radio project whereby isolated rural subscribers who live far from exchanges will be provided with a radio telephone terminal connected to the nearest automatic exchange.

Mr Sikhondze told the seminar that a feasibility study for a Satellite Earth Station has been made and that it was hoped that this project can be implemented within the next two years.

The opening of such a station for international communication services such as telephone, telex, television and data, will provide Swaziland with an exclusive link with the Interstate Space Communications Network that encircles the world.

However, he pointed out such targets cannot be met without the contribution of technical and other skilled personnel.

He acknowledged that there was general shortage of science and engineering graduates in Swaziland and that the telecommunications branch of his department was feeling the consequences as far as professionally qualified engineering staff was concerned.

"Equally, Mr Sikhondze, said among the senior technical staff there is a shortage of local staff.

"Fortunately, the department has a range of telecommunications training programmes both within Swaziland as well as at regional training centres in Malawi and Kenya" said Mr Sikhondze.

Swaziland, like any developing country, he said, required efficient telecommunications for its ambitious development. Government he said, had made a firm commitment to modernise and expand the telecommunications network eight years ago.

"Today we are in the midst of an accelerated programme of automation," he said. A reliable and high capacity microwave radio trunk network, he said, was now linking Mbabane with Manzini, Siteki, Hlatikulu, Nhlangano and South Africa.

Further expansion of the network, Mr Sikhondze said was in progress and that links to Piggs Peak, Mhlume, Big Bend and Maputo will have been installed before 1983.

CSO: 5500

BRIEFS

'IANA' TO BE DISBANDED--The Inter-African News Agency (IANA) is to be disbanded and replaced by the Zimbabwe News Agency, the Minister of Information and Tourism, Mr Nathan Shamuyarira, has told The Gazette. Mr Shamuyarira said that IANA, a co-operative agency which has served local news organisations for several years, would be used as the "core" for the new press agency. A number of young Zimbabweans are at the moment being trained at press agencies overseas. France is training some Zimbabweans at the Agence France Presse headquarters in Paris, as is the British-based Reuters agency in London. "We are negotiating with Associated Press (a large American press agency), and a news agency in Budapest has offered us two scholarships," said Mr Shamuyarira. "We will train our people all over the world, but when they come back they will be completely independent and work for Zimbabwe." [Text] [Salisbury THE FINANCIAL GAZETTE in English 19 Sep 80 p 1]

CSO: 5500

USSR LAUNCHES COMMUNICATIONS SATELLITE

LD061252 Moscow TASS in English 1240 GMT 6 Oct 80

[Text] Moscow, 6 Oct (TASS)--Under a program of developing communication systems and television broadcasting through artificial earth satellites, the USSR launched a communication satellite "Raduga" on October 1. Its onboard retransmission equipment is intended for uninterrupted round-the-clock radio, telephone and telegraph communication in the centimetre wave range and simultaneous beaming of colour and black-and-white national television programs to the "Orbita" network of stations.

The satellite's circular orbit is close to stationary and has the following parameters: distance from terrestrial surface--36,000 km, period of round-the-earth revolution--24 hours 4 minutes, orbit inclination--0.4 degrees.

Apart from modernized multibarreled communication and TV equipment, the satellite has a three-axis system of accurate orientation to earth, a power system with independent guidance and sun-tracking solar batteries, an orbit correcting system, a thermoregulation system, a radiotelemetric system to relay data on the function of onboard equipment, and a radio system of high-precision orbit measurement and satellite control.

The onboard equipment is functioning normally. The satellite is controlled by a checkout complex. The "Raduga" satellite has the international registration index "Statsionar-3."

CSO: 5500

BELGIUM

FIVE-YEAR PLAN FOR EUROPEAN MICROELECTRONICS DEVELOPMENT PROPOSED

Paris LE MONDE in French 19 Jul 80 pp 25-26

[Article by Philippe Lemaitre]

> [Text] The European Commission has just addressed proposals to the member governments on actions to be taken at Community level in respect to microelectronics and telecommunications.
>
> These two documents are responses to the Dublin European Council directives of November 1979. At that time the governments heads of the Nine asked the Community agencies to define a general strategy in the fabulous field of information technology.

Brussels (European Communities)--"The strategy we are now proposing to the governments is a catch-up strategy," stated on Thursday 17 July M. Davignon, the Commissioner for Industrial Policy, in his presentation to the press of the proposals on microelectronics. "At this time the community imports 65 percent of the integrated circuits (IC's) which it needs, and is even more dependent in the case of the most advanced numerical IC's. In terms of economic balance a deficit of 270 million ECU's (1.6 billion francs) was the result in 1979, which is not negligible, but is not the most serious thing. The spectacular drop in component cost means that some power of intelligent calculation can be incorporated into practically all industrial products. Therefore, the backwardness of the European technology in comparison to the United States and Japan is a threat to the competitiveness of the growing Community industry sectors.

The Nine are aware of the risk and in 1979 advocated "new cations intended to provide Europe with a modern microelectronics capacity by 1985." In recent years the member states have intensified their national efforts in support of this sector. But, according to the Commission, these programs are "fragmentary." The Community specified that "it is the responsibility of the Community to fill the gaps left by national products and to concentrate its efforts on the development of advanced technologies which may enable the

European industry to keep up with the competition of the most advanced products in 1985." Internal dialogue with the enterprises made it possible better to define the objectives to be reached for success in this strategic leap. "It must be capable of conceiving products and using submicron components, i.e. components of a size smaller than one micron. A broad concensus has been achieved in areas in which priority action is imperative if the specified objectives are to be reached."

To this end the main proposal of the Commission is intended to promote a European industry of the advanced equipment needed to produce the future generation of submicron IC's. "More and more the real technological problem is that of equipment," an expert from Brussels explained to us, expressing again the illustration supplied by the Commission, which, in the case of the mechanical industry, would apply to the machine tool industry. At this time the major part of this industry is in the United States. The Commission's document describes the disadvantages arising in Europe from this situation. "In America, and more and more in Japan, the continuous innovation process in the components industry in constantly sustained by dialogue and partnership with the specialized firms which develop and produce the necessary new materials and equipment." Such equipment firms are nonexistent or almost nonexistent in the EEC (the Commission lists only 3), and the European IC producers must acquire the knowhow and equipment from the United States "as they become available, i.e. several years after the American industries have had access to them, and sometimes just when a new generation of equipment appears."

To aid the formation of a viable European equipment industry it is necessary to:

1. Organize a close cooperation between the users, i.e. the IC manufacturers, and the equipment makes;

2. Raise the process to Community level since the eventual profits require marketing prospects extending to the whole EEC; and

3. Encourage only projects which are competitive with the Japanese and American efforts.

Public Aid

To reduce the risks which will be incurred by IC users and producers, referring to European equipment enterprises, the Commission proposes that public aid be granted and amount to up to 50 percent of the cost of the prototypes for which orders will thus be placed. But the Commission subjects the grant of these subsidies to an important condition. A grant will be assigned only "when a number of Community firms is pledged to use the prototypes of a given manufacturer and to invest in the necessary technical operations."

To execute this promotional effort the Commission regretfully refrained from suggesting Community financing. "A strategic series of actions of this type could be for some an ideal example of Community budget diversification for industrial development needs." But the "natural resources" of the EEC are being spent. Prompt action must be taken and to this end the Commission prefers to rely on national resources and procedures.

However, to induce transnational cooperation, "the possibility of a financial contribution by the Community is still under consideration in the event that at least 3 member states should participate." How can one be sure that this "equipment plan" will be conducted coherently on the basis of the needs of the whole Community? Aside from the fact that a first series of priority actions has been defined the Commission suggests the creation of a light structure for Community decisions: An Administrative Committee ensuring that subsidies will be granted by the same method by the different national administrations, or determining "the minimum number of user companies pledging to buy a given type of equipment to start the member state support mechanism."

Beside this central proposal concerning the equipment industry the Commission recommends also two kinds of action: The coordination of microelectronics programs and the financing at university level of studies of the new possibilities which now exist" in computer-assisted creative thought and testing."

Telecommunications--The Creation of a Community Market

The second proposal relates to telecommunications. A revolution is in progress in this field. This revolution is of dual nature: (1) The emergence of new communication networks using modern transmission technologies (glass fibers, satellites) combined with numerical transmission; and (2) The initiation for customers, i.e. substantially the enterprises, of a whole spectrum of new voice and videophone services: transmission of coded data, text processing equipment, and teleconference calls.

The Commission stresses that it is essential that the European industry as a producer of materials, and especially as a user, should beneficiate from the tremendous telecommunication boom. The national administrations, which in Europe enjoy a monopoly, are aware of it. They have already agreed that "the new integrated numerical service networks"--which will permit more rapid, more reliable, and less costly transmission--must be conceived and installed at European level, and know that a simple interconnection of networks as is in effect in the present telephone networks is not sufficient. The Commission suggests going must farther and taking advantage of the opportunity to decide that the new services which will be created on the basis of these modern networks will also be defined coherently to provide for unhindered transnational use.

The second proposal, which complements the first, is clearly involved with industry. The backing of the member governments must be obtained to create a Community market for automatic data transmission terminals. This is a considerable potential market extending from computers to television sets designed for data processing and connected to the network. In respect to more conventional equipment (standard telephones, private automatic switchboards, teleprinters) the Commission also recommends to the Council the progressive opening of public telecommunication markets.

9456
CSO: 5500

BRIEFS

FIBER OPTICS TELEPHONE CABLE--The first French connection using optical fiber cables between telephone exchanges has just been installed by LTT. It was placed in service in Paris at the end of August 1980. This connection was put in for the Directorate-General of telecommunications as part of a contract awarded jointly to LTT and other units and subsidiaries of Thomson-CSF. It uses a cable which, with an outside diameter of 21 mm, can carry more than 30,000 telephone channels on a luminous support emitted by laser. This cable connects the two Paris exchanges of "Tuileries" and "Philippe-August" which are 7 km apart. [Text] [Paris ELECTRONIQUE ACTUALITES in French 12 Sep 80 p 1] 5058

CSO: 5500 END

JPRS 76683

23 October 1980

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 136

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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JPRS 76683

23 October 1980

WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 136

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SWEDEN'S LM ERICSSON NEW TELECOMMUNICATIONS CONTRACTS IN SAUDI ARABIA

Stockholm SVENSKA DAGBLADET in Swedish 23 Sep 80 p 29

[Report by Johan Myrsten]

> [Text] Sweden's biggest export order ever, LM Ericsson's telephone project in Saudi Arabia in collaboration with Philips, is growing by several billion kronor a year. Today the total amount of the order is about 16 billion kronor, and by 1985 it may very well be up to 25 to 30 billion, fairly equally divided between LM [Ericsson] and Philips.

Of the amount of the order, about half goes into work that is carried out by subcontractors in Saudi Arabia, e.g. the South Korean construction giant Dong Ah. The rest is for equipment, installation work, and maintenance that is ordered from Europe. Of LM's orders amounting at present to a good 8 billion kronor, therefore, there is about 4 billion that shows up or will show up in LM's balance sheet.

When the original contract was signed in 1978 the order to LM and Philips was about 10 billion kronor. Since then it has been increased twice, the last time in April 1980, when the order grew by 2.5 billion to 16 billion kronor.

That the huge order already promises to become still bigger is based on the fact that an amount of about 30 billion kronor has been appropriated in Saudi Arabia's 5-year plan for 1980-1985 for continued expansion of telecommunications.

There are strong indications that LM and Philips will get a considerable part of the 30 billion kronor:

1. Saudi Arabia is now building up its telephone network with LM's and Philips's technology (the core of which is LM's AXE system), and this makes it hard for the country to change its main supplier.

2. LM and Philips have done their job well. The project is ahead of schedule, in spite of the fact that in places Saudi Arabia has very difficult working conditions.

Saudi Arabia's next objective is to attain a coverage of at least 12 subscribers per 100 inhabitants (Sweden has over 70). But in the long run the objective is considerably higher. By 1990 the country wants to have the world's most modern communications system--and that would involve additional multibillion-kronor investments from 1985 to 1990.

Björn Svedberg, LM's managing director, will not disclose just how profitable the Saudi Arabia project is. But he has stated that the order yields a profit and that the firm is satisfied with the margins.

The customer pays promptly and directly. LM and Philips have put in bills thus far amounting to 9 billion kronor. Five percent of the payment for part of the supplies is withheld, however, until the project is completed and accepted by the customer.

The parties to the contract are the Saudi Arabia Ministry of Post, Telephone, and Telegraph on the one hand and a joint-venture corporation Philips/LM on the other.

The same commission covers providing Saudi Arabia with 800,000 new subscriber lines and modernizing the 200,000 existing lines.

8815
CSO: 5500

BRIEFS

TAIWAN-CANADA OPEN FACSIMILE SERVICE--Taipei, Oct 8 (CNA)--The Chinese Government Radio Administration will open the high-speed facsimile service between the Republic of China and Canada from October 9, an official of the Ministry of Communication said Wednesday. In order to improve the telegraphic service so as to further promote economic relations between the two countries, the high-speed facsimile telegraph is an absolute necessity, the official said. The two-way trade between the two countries amounted to U.S. dollars 387 million January-July this year. [Text] [OW081401 Taipei CNA in English 1341 GMT 8 Oct 80]

AFGHAN-BULGARIAN PROTOCOL SIGNED--The cultural cooperation protocol between Radio Afghanistan and Radio Bulgaria was recently signed in Sofia, the capital of Bulgaria. On the basis of this protocol, radio material and radio programs will be exchanged between the parties and the Bulgarian side has agreed to put at the disposal of Radio Afghanistan--yearly--a number of fellowships. This protocol which was signed on 1 October 1980 is for the duration of two years. The protocol was signed for the Afghan side by Latif (?Nuria'i), director of publication of Radio Afghanistan and for the Bulgarian radio. The director of publication of Radio Afghanistan upon the invitations of the relevent authorities of the USSR, MPR and Bulgaria visited these countries and returned home recently. He also participated in the Conference of Asia and African Writers in Ulaan Baatar and the Conference of World Writers in Sofia. [Text] [LD101626 Kabul Domestic Service in Pashto 1530 GMT 9 Oct 80]

MOROCCO, SUDAN SIGN AGREEMENT--Rabat, 10 Oct (MAP)--The Moroccan information minister, Dr Abdel Wahid Belakziz, and visiting Sudanese minister of information and culture, Dr Isma'il al-Haj Musa, concluded here Thursday a cooperation agreement stipulating the exchange of radio and television information, documentation, and experience as well as cooperation at bilateral level and at the Arab, African and international levels. On the other hand, Mr Abdeljalil Fenjiro, director of the Moroccan News Agency "Maghreb Arabe Presse," and Mr Faysal Mahmud Khadr, director of information at the Sudanese Ministry of Information and Culture, concluded another cooperation agreement. This agreement organizes the professional and technical relations between the two countries' news agencies and more especially regarding the direct telegraphic connection aimed at exchanging news bulletins, photos, and documents. The agreement also stipulates the granting of necessary facilities to the correspondents of the two agencies. [Text] [LD101408 Rabat MAP in English 1214 GMT 10 Oct 80]

TAIWAN-S. AFRICA OPEN RADIOPHOTO SERVICE--Taipei, Oct 13 (CNA)--The International Telecommunications Administration (ITA) opened a direct radiophoto service between the Republic of China and the Republic of South Africa October 10, ahead of the original schedule, to speed up the news interflow between the two countries on the occasion of the visit of South African Prime Minister P. W. Botha and his entourage to this country. In addition ITA will open a special telephone service between Taipei and Capetown exclusively for Prime Minister Botha during his stay. Prices of radiophoto service between the two countries are NT dollars 1,800 (U.S. dollars 50) per 150 square mm, and NT dollars 900 for an additional 100 square mm, ITA said, adding that the ceiling area for a photo will be 350 square mm. In addition to South Africa, ITA has extended radiophoto services to Italy, Japan, Hong Kong, Korea, the Phillippines, Singapore, Thailand, Britain, West German and the United States. [Text] [OW131451 Taipei CNA in English 1347 GMT 13 Oct 80]

CSO: 5500

BRIEFS

ASIAN-PACIFIC NEWS AGENCY PROPOSED--Taipei, Oct 9 (CNA)--The Philippine delegation Thursday proposed at the 16th General Assembly [of] the Asian Parliamentarians' Union to establish an Asian-Pacific News Agency to promote balanced news interflow in this region. The proposal said that Western mass media are (?inclined) to report the negative side of the countries in the Third World, purposely neglecting the efforts of those nations in their struggle for independence, sovereignty and survival. The Philippine delegates proposed to organize national news agencies in the Asian and Pacific area into a transnational news organization to resist the Western communications imperialism and provide an accurate and balanced news service in this region. [Text] [OW091603 Taipei CNA in English 1354 GMT 9 Oct 80]

CSO: 5500

BRIEFS

MPR RADIO RELAY LINE--Ulaanbaatar, 3 Oct (MONTSAME)--Today's papers prominently published reports on the commissioning of the new Arvaheer-Bayanhongor section of radio relay line being built with the manpower and funds of the Soviet Union as a gift to the MPR. [Text] [OW100513 Ulaanbaatar MONTSAME in Russian 0504 GMT 4 Oct 80]

CSO: 5500

FIRST NATIONAL CONFERENCE HELD ON RADIO IN OVER 14 YEARS

OW071550 Beijing XINHUA in English 1533 GMT 7 Oct 80

[Text] Beijing, October 7 (XINHUA)--China now has 99 central and local broadcasting stations. This nationwide network is relayed through radio re-diffusion stations throughout the country.

Radio Peking [as received] broadcasts overseas in 38 languages.

All provinces, municipalities and autonomous regions, except Tibet, have TV stations, totalling 38. Television started in China in 1958. TV service is now under construction in Tibet.

Zhang Xiangshan, director of the Central Broadcasting Administration, announced these facts at the country's first national conference on broadcasting since the "cultural revolution." It opened today with 200 delegates attending. The last conference was convened in April, 1966.

Zhang Xiangshan in his opening speech stressed the following points:

--radio and TV news have recovered their truthfulness after the smashup of the gang of four;

--programmes are more varied and receive favourable comments from viewers;

--the central task of the radio and the TV is to serve economic construction and China's modernization;

--news comments will concentrate on economic affairs, followed in importance by topics of socialist democracy and law;

--international news coverage will be prompter;

--theatre, cinema and art will be given more time;

--importance is attached to vocational training through radio and TV classes, which already have 400,000 regular students; lessons will be given in localities for primary school teachers, village doctors and farm mechanics;

--more contacts with listeners and viewers will be encouraged;

--more coverage will be given to programmes of wide public interest, such as market and everyday life.

CSO: 5500

TELEPHONE ORGANIZATION REPORTS NEW AREA CODES

Bangkok TAWAN SIAM in Thai 5 Aug 80 p 2

[Announcement by the Telephone Organization of Thailand; issued 15 July 1980]

[Text] Concerning the opening of automatic long-distance telephone service between the Bangkok metropolitan telephone area and other regions, there have been additions for some areas.

Beginning at 1200 hours on 1 August, the Telephone Organization of Thailand will open automatic long-distance telephone service between the Bangkok metropolitan telephone area and various provinces in the Central Region (some parts) and in the northeast (all areas). There will be a total of 50 exchanges as follows:

Area code 035 is the exchange for Ayuthaya, Wangnoi, Bang Pha In, Phachai, Tharua, Suphanburi, Song Phi Nong and Ang Thong.

Area code 036 is the exchange for Saraburi, Phra Phutthabat, Ban Mo, Kaengkhoi, Lopburi, Ban Mi, Khoksamrong, Lamnarai and Singburi.

Area code 042 is the exchange for Udorn Thani, Kumphawapi, Nong Bua Lamphu, Nong Khai, Thabo, Si Chiang Mai, Loei, Chiang Khan, Sakon Nakhon, Sawang Daendin, Nakhon Phanom and Mukdahan.

Area code 043 is the enchange for Khon Kaen, Ban Phaiphon, Chumphae, Roi Et, Kalasin and Maha Sarakham.

Area code 044 is the exchange for Nakhon Ratchasima, Pakchong, Sikhieu, Buayai, Pakthongchai, Chaiyaphum and Buriram.

Area code 045 is the exchange for Ubon Ratchathani, Amnat Charoen, Phibunmangsahan, Khongchiem, Surin, Sisaket and Yasothon.

Telephone users in the Bangkok metropolitan telephone area must dial the three-digit long-distance area code of one of the long-distance exchanges mentioned above and then dial the number they want. For example, to dial long-distance from Bangkok to the number 23-7200 in Khon Kaen, the person must dial 043-23-7200.

On this same occasion, the Telephone Organization is opening automatic long-distance telephone service from the exchanges in the Central Region (some parts) and in the northeast (all areas). People from all 50 exchanges mentioned above can dial direct to the Bangkok metropolitan telephone area by dialing the long-distance area code 02 and then dialing the number desired. For example, to dial long-distance to the number 245-1422 in Bangkok, the caller must dial 02-245-1422.

Note: In using automatic long-distance dialing, the number desired must be dialed after the long-distance area code and, before dialing the desired number, the caller must wait 10-15 seconds until he hears the dial tone.

Service charges for unassisted long-distance telephone calls will follow a new rate. Charges will be computed based on the number of minutes thecall actually lasted. A fraction of a minute will be charged as a full minute (there will be no basic rate for the first 3 minutes). Between 1900 and 0600 hours the next day, the service charge will be lowered by half.

If a caller wishes to have operator assistance in placing a long-distance call between exchanges that have opened automatic long-distance service, a charge of 10 baht per call during the day and 20 baht per call during the night will be added on to the service charge above. An exception to this is that, if the person goes and uses the long-distance telephone service at the telephone office, he does not have to pay this extra charge.

11943
CSO:5500

BRIEFS

SATELLITE LINK STATIONS--Mexico City, 8 Oct (EFE)--By 1982, all of Mexico's territory will be covered by television and telephone, Secretary of Communications Emilio Mujica Montoya announced today. Mujica signed a contract with Emilio Azcarraga, president of Televisa, one of the world's most important Spanish-speaking television companies, for the construction of 80 satellite link stations to send television and telephone signals. Televisa will invest some $8.8 million in the construction of 46 stations of this kind according to the stipulations of the Mexican authorities. The secretariat of communications and transports, meanwhile, will build 34 other stations at a cost of $3 million. The agreement, according to Mujica, is in line with the wishes of the government, with the support of Televisa, to expand the nation's communications infrastructures. Mujica stated at the signing ceremony that the television and telephone signals will reach 25 to 30 percent of the nation's population, which up to now was without this commodity in some 9,000 small towns. He added that Mexico is already looking into having its own satellite and that it has contacted France and Canada, among other countries, for this purpose. However, he explained that this will not be possible for 4 years. Therefore, use of the existing satellite is foreseen and Mexico has the collaboration of Televisa. Miguel Aleman, executive vice president of Televisa, commented that the agreement is an example of joint effort for the good of the nation. [Text] [PA110111 Madrid EFE in Spanish 0417 GMT 9 Oct 80]

CSO: 5500

BRIEFS

NEW RADIO STATION ESTABLISHED--Radio 13 de Octubre will be officially opened today as part of the activities scheduled to commemorate the attack on the San Carlos Garrison on 13 October 1977. The radio station will be a member of the Sandinist communications media system and will be located on the San Carlos departmental highway. It will serve to further one of the revolutionary government's strategic missions. This radio station represents one more effort by the government to counter the propaganda of foreign radio stations which often distort the process underway in Nicaragua. Companero Jesus Miguel Blandon, director of Radio Sandino and official in charge of the radio stations of the Sandinist communications system, explains the efforts made to establish this radio station and its functions within the framework of the revolution. [Begin recording] It was necessary to establish this radio station in order to help the communications with San Carlos department, since at present San Carlos can be reached only by airplane because the highway is in very bad shape and it takes anywhere from 19 to 24 hours to make the trip by launch. [end recording] [Excerpts] [PA131616 Managua Radio Sandino in Spanish 1200 GMT 13 Oct 80]

CSO: 5500

BRIEFS

NEWS AGENCY HEADQUARTERS--The Kuwait News Agency, KUNA, is to build a new headquarters following recently-announced world-wide expansion plans. Overseas offices are to be established, linked by a highly-sophisticated communications network via satellite operating 24 hours a day. KUNA aims to become the largest news agency in the Middle East. Tenders for the new building in central Kuwait will be invited next month. [Text] [GF111230 Manama GULF MIRROR in English 11-17 Oct 80 p 2]

CSO: 5500

NEW TELEPHONE INSTALLATIONS INAUGURATED

Beirut AL-NAHAR in Arabic 6 Aug 80 p 4

[Article: "Al-Murr Dedicates Four New Telephone Sections at the Main Telephone and Post Office Building; 30,000 New Telephone Lines Added During the Past Year"]

[Excerpts] Lebanese minister of post, telegraph and telephone, Engineer Michel Murr, dedicated four new telephone sections at the main telephone building on Riyad al-Sulh Street on Beirut.

The following sections were dedicated on the lower floors of the building:

1. The power center which supplies electricity to the international centers and secures continuous communications with all the terminal stations.

2. The signal carrier section which adds 3,000 lines connecting the capital with all the provinces.

3. The international center which doubles the present 700 international lines to 1,400.

A Press Conference

On the fourth floor of the building, Mr Murr held a press conference during which he answered questions, explained the accomplishments of the outgoing cabinet and responded to some accusations. Mr Murr opened the press conference as follows:

"Inspite of the [troubled] security and political situation in the country, and inspite of the resignation of the cabinet, we felt we should come to this place to dedicate the new equipment installed during the past year.

"We are in the main telephone building on Riyad al-Sulh Street. This building houses the main international telephone center, the main national "A.R.M." center which connects Beirut with all other areas, and the central exchange for no less than 500,000 telephone lines.

"A very large amount of new equipment has been added to this central complex of the telephone system during the past year. All international, national and regional lines have been doubled, and all new lines can become operative this month.

"We are here on the Lebanese soil, at the telephone headquarters of Lebanon, and we are in the government to serve all of Lebanon. Whenever we accomplish a job related to the telephone system, we do not consider the geographic location of the improvement. We provide it regardless of its location. As far as we are concerned, Lebanon is an indivisible entity from north to south and from east to west.

"We are at the headquarters of the telephone system, where the equipment has been greatly increased during the past year, contrary to what rumors say. The equipment has doubled or even tripled and quadrupled during the past year. This is what I wanted to explain to all of you during this dedication ceremony. You have seen the equipment on the various floors, and I would like to answer any questions you may have."

Questions and Answers

[Question] It is said that some equipment has been transferred from these headquarters to specific areas. Is this accusation against the ministry true?"

[Answer] First of all, I reject the term accusation. Second, I have read the report you are referring to that the administration has transferred some equipment. This is totally untrue. The telephone administration has doubled the equipment in this center. I repeat that the telephone administration does not recognize a telephone center by its geographic location. We do not differentiate between one location and another, since all locations are Lebanese.

[Question] What is the number of new telephone lines installed and how are they distributed geographically?

[Answer] Some 30,000 new telephone lines have been installed during the past year. We do not consider them distributed according to a specific scheme. Some 16,000 lines have been installed south of the Damascus highway, and some 14,500 lines have been installed north of it. It is a balanced distribution without intention to make it so. The population of Lebanon is fairly well distributed. For this reason the installation of telephone lines is automatically well-balanced. We do not recognize north, south, east or west. We know of one Lebanon and we believe in it.

[Question] What, in your opinion, are the practical results of complaints received by the ministry concerning needed telephone repairs?

[Answer] Repair work is needed on a daily basis for a telephone network that serves 250,000 customers. We have repeatedly said that inspite of the number of lines that need repair, the telephone administration cannot adequately perform its duties under current security conditions, due to the lack of manpower and needed equipment. It is not possible for the administration to overhaul and reequip a 30-year-old system in a matter of one month or one year.

In addition to that, the Lebanese budget cannot bear the necessary appropriations for the installation of a brand new network in the full sense of the word. For this reason, I say that we have installed a new network with a capacity of 30,000 lines. If we can add 30,000 or 40,000 new lines during the coming years, we will have built a new network on a gradual basis.

[Question] Is it possible to know the amount spent on developing this network since your appointment?

[Answer] I can give you an approximate figure of 15 to 20 million Lebanese pounds. In other words 15 to 20 million Lebanese pounds worth of equipment have been installed at the main telephone center during the past year.

As for Ra's al-Nab' Center, it has been under construction for 3 months, and will require another 9 months to complete. It will be a main electronic center and the ministry is devoting full attention to it.

[Question] Is it true that the balanced distribution of telephone lines was accidental, or were there specific instructions on your part?

[Answer] I have already said that it was accidental, because the Lebanese population is well distributed. I do not give any instructions based on any specific geographic considerations, and I would never allow any official in the telephone administration to apply concepts which are not in keeping with a sense of national responsibility.

[Question] Is there any serious planning for the installation of new networks or stations which would link the remote areas such as eastern and western al-Biqa'?

[Answer] In all districts, we have awarded contracts for telephone networks which will link all these districts together. In al-Biqa', a contract has been awarded to install an automatic exchange which will link three or four stations together. Sha'b Station, which was destroyed during the recent disturbances will link Ba'labakk with al-Hirmil al-Jadidah, Rashaya in western al-Biqa', al-Shaykh 'Abdallah, the main station at Dahr al-Baydar, and al-Sultan Ya'cub. Similar work will be done in north Lebanon. A contract has been awarded to install a main center at a location called Mar 'Ilyas. It will link Hadath al-Jubbah with Bsharri, Tripoli and al-Batrun. In addition to that, the ministry is installing a new cable connecting Tripoli with Beirut. This cable will be completed within the next 3 months.

As for the south, the ministry is installing a station in 'Ubay to replace the station of Jabal Safi. This station which will cover Saida and the entire south will be ready to operate very shortly.

This does not mean that we have neglected important close areas such as Juniyah, al-Jabal and 'Alay which are served by wireless, or by cables which will be completed within a period of 2 to 8 months.

[Question] What about the al-Tayyuni cable?

[Answer] It is sometimes improper to ask a certain question, and against the public interest to answer it. We succeeded in installing the Opera area cable inspite of road blocks and danger to the lives of our employees. We are now following the same methods to install the cable of al-Tayyuni. We did not announce this earlier for the protection of our employees who are working hard for the success of their second mission. I am giving this information since you asked. I have asked the crews to continue their work, and told them there will be a sizeable reward.

[Question] How many telephone lines have been installed during this part [sic] of the life of this government?

[Answer] The number of new telephone subscribers reached 17,000 within a period of 1 year. This is equivalent to the total number of new subscribers since 1973. These new lines are equally distributed among the various Lebanese areas.

By the end of 1981, we will have 210,000 new lines (electronic) distributed among all Lebanese areas. At that point, supply will exceed demand, and the ministry will be able to provide telephone service to everyone. This program should be accomplished according to a time schedule drawn up for this purpose.

[Question] What about telex service?

[Answer] There is one telex station on Riyad al-Sulh Street with a capacity of 1,000 telex lines. There are no telex centers in al-Dawra and other areas. Reports on the existence of such centers are meant to create confusion.

8988
CSO: 5500

BRIEFS

NEW RADIO NAME--The forces of the revolution today marched on the information media--broadcasting, press, news agency, printing presses, cultural institutions, theaters external information, theatrical groups and the cinema in addition to publishing, circulation and information and information programs and have placed them under vigilant revolutionary control, which leads to a successful revolutionary remedy. This historic march has taken place today. This radio of yours, Arab brothers, and masses of all the world peoples who are hungry for freedom and who look anxiously to emancipation and final deliverance--this radio of yours from today will become the radio of the voice of the Arab homeland [Idhaat Sawt al-Watan al-Arabi], the voice of the popular revolution, the voice of the revolution of the future. [Excerpts] [LD072247 Tripoli Voice of the Arab Homeland in Arabic 2015 GMT 7 Oct 80]

CSO: 5500

'PANA' OFFICIAL VISITS SEYCHELLES TO DETERMINE NEEDS

Victoria NATION in English 29 Sep 80 pp 1, 2

[Excerpt] A representative of the Pan African News Agency project (PANA) was in Seychelles during the weekend on a two-day visit to check on local communications facilities and to assess the needs of Seychelles Agence Presse to receive and transmit news to PANA headquarters.

Mr Mohamed Khair Osman, who is also director of the technical department of the Sudanese News Agency, visited the headquarters of the Government Information Services, at Union Vale, and held discussions with officials of the Seychelles Agence Presse (SAP).

Seychelles is a member of the PANA East Africa regional pool and is expecting help from PANA for its equipment requirements to receive and transmit news despatches to the headquarters.

PANA East Africa regional pool has its headquarters in Khartoum, the Sudanese capital, hosted by the Sudanese News Agency, while the headquarters of the whole operation are in Dakar, Senegal.

The East Africa regional pool has announced its readiness to start operations next year and is already making trial transmissions.

News despatches from the member countries will be sent to the regional headquarters which, in turn, will be transmitted to the main headquarters in Dakar. The main headquarters will then retransmit the news all over Africa and the world.

CSO: 5500

BRIEFS

AFRICAN NEWS AGENCY OFFICIAL--Khartoum, 12 October (SUNA)--Technical consultant of the Pan African News Agency (PANA), Mohamed Khir Osman, returned here today concluding a 27-day East African tour. In Ethiopia, Tanzania, Kenya, Malagasi, Mauritius, Seychelles, Somalia and Djibouti Osman discussed with information officials technical facilities needed for the establishment of PANA's East Africa pool. Osman, who is also the engineering manager of Sudan News Agency (SUNA), reviewed draft agreement on cooperation between SUNA and the national news agencies of those countries. [Text] [LD130956 Khartoum SUNA in English 1705 GMT 12 Oct 80]

CSO: 5500

EUROPE CATCHING UP WITH U. S. COMSAT TECHNOLOGY

Paris LE MONDE in French 20 Sep 80 pp 35-37

[Article by Jean-Francois Augereau: "An Opportunity for Europeans To Seize"]

[Excerpt] There was a time when space communications industrialists were bemoaning the fact, not without some bitterness, that there were more satellite builders than prospective satellite users. At that time, the technical and financial risks involved were not such as to reassure industrialists tempted to try their luck, particularly those manufacturers who were not lucky enough to be bolstered when entering this field by large earnings from their substantial military communications programs.

Those days are gone, however, and the situation has definitely changed since then. Many people have now forgotten what a technical feat it really was when France was linked to North America via the Telstar satellite 20 years ago. Such links are an everyday matter now that all of the satellite systems orbiting the earth have brought the continents within telephone range.

Space communications has become a highly promising, full-fledged economic activity in which there is fierce industrial competition.

American industry--Hughes Aircraft, Ford Aerospace, TRW, etc.--is, of course, still the obvious leader in this field. But European manufacturers whose skills and at times original technical methods have been recognized, are beginning to force open the long-closed doors to this club. They are not full-fledged members of the club as yet, even though their joint achievements--OTS [Orbital Test Satellite]. Meteosat, and Symphonie--are proof of their know-how. But they are still waiting to win their first communications satellite contract abroad. There is one satisfying development, however. Their achievements have enabled them to become associated with contracts and programs awarded to American companies.

A 12 Billion Dollar Market

At the present time, every one wants to capture--alone or by joining with other firms--the largest share of this market which some experts estimate will amount to some 12 billion dollars for the next 10 years: 8 billion dollars for supplying new systems and 4 billion for replacing existing systems.

In addition to such essentially global communications satellite systems as Intelsat, an international organization with more than 100 member nations, or Intersputnik, the Eastern bloc's organization, there are now purely regional or national systems. While the global systems have already replaced their satellites several times to meet mounting transoceanic traffic requirements, the regional and national systems are currently in the development stage. For this reason, developing countries, whose ground-based telephone communications facilities are frequently nonexistent, are ideal customers, as evidenced by the interest shown in communications satellites by Colombia, Brazil, the Arab countries, Indonesia, India, etc.

All of this contributes to the launching of increasingly more powerful and increasingly more numerous satellites. Today there are 75 communications satellites operating in geosynchronous orbit at an altitude of 36,000 kilometers. Others already built are about to be launched either by NASA or by Europe.

This is, therefore, an expanding market as evidenced by the growth of international communications. The reader can judge for himself: requests for telephone channels--it takes two to constitute a circuit and establish a complete communications link--received by Intelsat have increased at an average annual rate of 17 percent. Better still, during the past 2 years this rate has reached the 25 percent mark, an exceptional and purely cyclic development.

Intelsat currently handles two-thirds of the intercontinental traffic above the Atlantic, Pacific, and Indian Oceans. In its traffic forecasts, Intelsat estimates that in 1993 it will have to handle 300,000 requests for telephone channels, and nearly 1 million by the end of the century, compared with merely 45,000 requests at the present time.

The systems in orbit will not be sufficient and new satellites will have to be launched, both to reinforce the existing network and establish new means of communication.

The latest Intelsat contract for seven heavy Intelsat 5 satellites amounted to 235 million dollars in 1976. Another more recent market has been added to this especially large global market, namely the domestic and regional satellite systems employing either separate satellites--North America, Indonesia, and more recently France--or using leased capacity on satellites used for international communications. The Canadians, with their Telesat domestic system, and the Americans, with their Westar, Comstar, and Satcom systems, set the pattern in this field and have been followed by many others.

This expanding sector appears to be full of promise judging from the various studies which estimate that by 1989 domestic and regional satellite systems should be handling about 500,000 circuits. This would mean a market of approximately 1 billion francs during the period 1979-1989, and two-thirds of that market would be open to competition. It must be noted, however, that because of their development, the industrialized countries have capacities that are rapidly becoming saturated. This phenomenon is already noticeable in the United States, and there is no doubt that it will reach Europe with a lag of 2 years, thereby making domestic and regional systems products primarily for export.

8041
CSO: 5500

BRIEFS

LARGEST MACROECONOMIC DATA BANK--The International Data Processing Services Company (CISI), a subsidiary of the Atomic Energy Commission, has signed an agreement with the European Community for establishment of Europe's largest macroeconomic data bank. This bank, designated Chronos Eurostat, will contain a collection of some 600,000 macroeconomic series concerning 23 different subject areas, such as agriculture, industrial production, fisheries, developing countries, imports and exports within the EEC, etc. All of the information offered by this data bank will represent the equivalent of 400,000 typed pages. This data will be compiled and formulated by the European Bureau of Statistics and distributed by the CISI. It will be available in early 1981 via the Euronet and Transpac data transmission systems. [Text] [Paris LE MONDE in French 20 Sep 80 p 41] 8041

CSO: 5500

DATA BANK USAGE SPREADS, MORE PUBLISHERS NEEDED

Paris LE MONDE in French 20 Sep 80 pp 35, 38

[Article by Philippe Collier "The Worrisome Lack of French Publishers"--passages between slantlines originally published in italics]

> [Excerpts] Every day, somewhere in the world a new data bank is created. All the studies made in the United States and Europe are in agreement in predicting very rapid growth for this new sector of activity. The American market should quadruple in 5 years, to reach 4.5 billion dollars; the European market should triple in 10 years, going from 600 million dollars in 1979 to 1.7 billion in 1988. As for the French market, it should, if the objectives set by the public authorities are met, nearly double each year, and reach 700 million francs in 1984, compared to 15 million in 1979.

Europe, and especially France, only emerged from the nearly total domination by the United States of the electronic information market in 1978. The Aigran report on scientific and technical information, the Nora-Minc report on the computerization of society, and the Lenoir-Prot report on economic and social information, played a triggering role. So now the strategic, economic, political and cultural stakes in information are out in broad daylight.

Europe is certainly not without data banks, but they are dispersed and not easily accessible, thus little utilized.

Out of 1,165 systems in existence at the start of 1979, 531, or 45 percent are of European origin. More, only 29 percent of these 531 systems are accessible by telematics, whereas of the 634 made elsewhere, that is to say, primarily in the United States, 63 percent have on-line access. The United States has not failed to exploit this situation. Out of the 110 data banks currently proposed by Lockheed, the biggest American dealer, half originate in Europe!

The big American information dealers would thus stand to do at least 20 percent of their turnover in Europe. Lockheed would do about 4,000 hours a month on the Old Continent, and System Development Corporation (SDC) about 2,000 hours a month, of which about 400 would be oil industry activities on the APILIT and APIPAT index-cards. By way of comparison, the biggest European Space Agency, should do about 2,500 hours, while the French dealers all together would barely do 1,000 hours. As to French users under United States control, they would handle about 2,500 hours monthly, four-fifths of this being the activities of about 10 big firms in the fields of chemistry, oil, and pharmaceuticals.

Filling the Big Gaps

Faced with this situation, France in 1979 started on an active policy to create, between now and 1984, a national information industry that is /"competitive, profitable, and exportable."/ For its part, the Commission of the European communities has put in place a 5-year plan aiming at the creation, by 1985, of /"500 new data banks that in no way duplicate American services."/ In the first place, it was necessary to put in place data transmission networks emphasizing access and long distance interrogation of existing document stores.

France, with Transpac, was the first EEC country to have such a public network, while, on the European scene, the Euronet network was inaugurated last February. Despite their growing pains, still frequent, the networks offer the unique feature of tariffing without regard to distance and [rates] about 10 times lower than those using the classical telephone network. Euronet tariffs are also much lower than those of the transatlantic Tymnet and Telenet. European users are this motivated to /"buy European."/

Along the same lines, many information service firms have opened departments /"dealing"/ in data banks, where they play a sort of intermediating role between the makers and the users of the banks. With the help of major information processing resouces, their role consists in offering a commercially exploitable service. Today some 30 dealers are hooked up to Euronet, representing the effective or soon to be complete link-up of 193 data banks.

Since the beginning of 1979, five major dealers have started up in France: SPI (an affiliate of Pechiney-Ugine-Kuhlmann), Telesystemes (an indirect affiliate of PTT, supported by the public authorities at the level of 75 million francs over 5 years), CISI (a subsidiary of CEA), and, more recently, "G. CAM" (a subsidiary of Societe Generale). Not to forget the producing dealers which in narrowly focused scientific fields offer only a single bank, such as Pluridata, Thermodata, Ergodata....

The third field of governmental activity concerns improvement and creation of new data banks. In these terms, two complementary policies must be distinguished.

That of the ministry of industry underwrites plans to create and commercially exploit data banks of short-term profitability. The support given, in the form of a development contract, could reach 50 percent of investments over 5 years, but must be reimbursed in case it goes sour. That is to say, this type of procedure arouses little competition in the private sector. To this date, only a few contracts have been signed.

The Interministerial Task Force on Scientific and Technical Information (MIDIST) was for its part designed to support the creation of 50 new data banks for specialized data between now and 1984. This year, 20 pilot projects, selected from those who responded to a first call for proposals, are benefiting from a 2-million franc subsidy. A new one has just brought 130 responses, of which 30 percent come from the private sector. This form of assistance is meeting a better reception, for it involves less risk in a field where the new entrepreneurs still find it difficult to control their costs.

Start With the Needs of the Users

At the community level, the European Commission has put out a call for proposals, to promote systems on the international scale. It has received 266 responses, of which 97 are of private sector origin and 80 are from France.

The still-infant French information industry is pushing toward rapid growth. At the start, the public authorities were first of all concerned to put in place the resources and to create a dynamic, before dealing with substantive problems answering to specific needs. The users must have felt themselves quite forgotten in this take-off stage.

The dealers /"loaded"/ their computers from existing data banks without too much concerning themselves with their quality. /"Most of the present systems were developed by the makers (that is to say basically public entities) without serious analysis of the needs of the potential users,"/ says the Lenoir report bluntly.

One also notes other major gaps. Relatively well supplied with scientific and technical data banks, France lacks numerical, factual, and textual data banks, in the fields of economic, financial, juridical, industrial project, and press information...Most of the European banks offer bibliographic references, while in the United States, data banks delivering directly utilizable information account for 80 percent of the revenues of the industry, compared to only 20 percent offering only bibliography!

The first objective, which was to reduce French dependence while /"recapturing"/ the users from the American systems, has not been attained: these users, in reduced numbers, but nevertheless being big consumers, are not ready to change their habits from one day to the next, and in great majority remain convinced of the superiority of the systems on the other side of the Atlantic, considering their needs.

From the point of view of the traditional suppliers of information (publishing houses, the press) as well as that of the beneficiaries of the networks and the information processing, the concern seems to be to control the channels: the publisher McGraw-Hill, after having spent $10 million to develop "on-line" products, has bought DRI, the leader in on-line economic information, for $103 million, Dun and Bradstreet, specialist in commercial information, payed 30 times the profits for NCSS, a "time-sharing" firm. In Europe, Pergamon-Press has just bought back the British dealer Infoline. In this respect, the absense of French publishers is worrisome; the awakening may be painful.

9516
CSO: 5500

GROUND FORCES COMMUNICATIONS ARM VIEWED IN SOME DETAIL

Paris TAM in French 11 Sep 80 pp 20-21

[Article--passages between slantlines originally published in boldface]

> [Text] Created nearly 40 years ago, the communications arm is youthful, alive, and in good health. Perhaps just because of its youth, it is perhaps not yet well known, all the more because its rapid evolution has often been hard to follow. No other arm, in fact, has experienced in so short a time such profound revolutions in means, organization, and structures, even in its missions.
>
> Also, its activities are not spectacular like perhaps a cavalry charge or a concentration of artillery. Bound to great discretion in the very name of its mission, it does not attract media attention.
>
> The "national communications days", held from 29 September to 5 October 1980 in all garrisons where communications units are installed, are aimed precisely at lifting the veil from this discreet but on how indispensable an arm.

In a general way, it can be said that communications are responsible for making possible the exercise of command by establishing the connections necessary to conduct information--verbal or written--in the form of orders, accounts, intelligence, documents, data. This mission has many aspects. For it is not only a question of links between two leaders--that part is easy--but of staffs, of whole groups of personnel articulated in numerous and diversified cells. It is not only a question of covering a certain zone but of vast spaces, beginning with the whole territory of the nation. It is also protecting communications systems against attack by the enemy--particularly electronic attacks--and, conversely, of impeding, neutralizing, the electronic activities of the enemy.

It is a question, finally, of keeping command informed, and helping it in its decision-making by means of information processing.

An Enterprise With 23,000 People

The communications arm pursues its activities in numerous fields which overlap and interpenetrate:

--forces
--infrastructure
--electronic warfare and cryptography
--data processing;

It numbers 15 regiments, 2 groups, and 133 companies.

It is everywhere: in France, in Germany, and overseas.

It employs about 23,000 people:

--1,550 officers, including 40 woman officers
--7,800 non-commissioned officers, including 1,500 female NCO's
--12,000 men of the ranks
--1,600 civilian personnel.

Everywhere, what distinguishes it is:

--its total integration in the combined command, to give it the means to fulfill its role of command and the possibility of attacking or intercepting enemy broadcasts, which demands imagination, competence, astuteness, and decisiveness on the part of the personnel;

--concrete and measurable results by which, under all circumstances, its actions are judged, for it works, in peacetime, at "full steam," which means in the same conditions that it would meet in case of crisis or war. There are no exercises or combined maneuvers of any importance without the effective participation of communications;

--the feeling of living in the very midst of a time marked by the explosion of electronics and data processing.

But one should not think, for all that, that the communications arm is a "technical" arm. Communicators only operate particular equipment, often no more complex or technical than those used by other arms. Of course communications has its technicians, some even of high level, but it remains, nevertheless, basically an arm where young people attracted by the command of men can hope to develop their skills.

At All Levels of Command

The communications arm is found at all levels of combined command.

--At the highest level of this command, the central directorate of communications, under the army general staff, participates in studies on organization and the task of the arm, coordinates development, utilization, and support of the infrastructure of the permanent nttional communications network, administers a budget of 245 million Fr. per year, passes, along with the industrials, on the profitability of infrastructural equipment, assures the training of personnel, provides for the functioning of the data processing centers.

--At the level of each military region and large unit, the arm is represented by:

--a communications command, an organ of control, which plays a primordial role of technical advice to the combined command in matters of communications, and which directs infrastructure communications of the region;

--a communications unit whose size varies according to the level considered, responsible for supplying the means and putting them into operation: a company in each division, two or three regiments to each army corps, a branch regiment, a high command regiment, and electronic warfare units.

Independently of the formations above, infrastructure communications are assured by:

--a regiment which could be described as national, for, though its staff and support is in the Paris region, it has detachments in many points throughout the Hexagon;

--in each military region, in Germany and in Tahiti, a regiment or a utilization group on communications. Each of the formations above, whose staff is usually found at regional military headquarters, is divided into as many detachments as there are military divisions, major garrisons, combined colleges, camps, etc., to serve.

This organization insures that there are communicators--in small numbers sometimes--in many towns and that the equipment and machinery they put into operation are very diverse and very numerous, including 500 telegraph call-boxes, 400 telephone switchboards, 60,000 telephones.

Resources for automated data processing are concentrated in:

--two national centers one of which is especially responsible for processing logistical information;

--six regional centers, whose renovation with powerful and modern equipment is under way.

Evolution of the Eighties

Having already reached maturity and now enjoying some of the satisfying results, the communications arm will need all its vitality and enthusiasm its youthfulness can provide to take charge of the evolution of the Eighties.

In fact, if communications has expanded continuously since its creation, its growth and rate of modernization should soon receive unusual acceleration: a veritable technical and technological revolution has come in recent years with the general diffusion of data processing and, in a more general way, numerical techniques.

This "leap forward" will affect all the activities of communications and will have major repercussions on the structure of formations, the disposition of resources, and the training conditions of personnel. In 1982, the communications of the armed forces will begin to be provided by /an integrated network of automated transmission--RITA/--which will offer possibilities that simply cannot be compared with the presently utilized systems. We will content ourselves with indicating that anyone on the network, wherever he may be, even while in transit, will be able to be reached by a caller via automatic scanning.

The same techniques, starting in 1983, will make it possible to greatly increase the possibilities of the military infrastructure network--the integrated network of army communications--/RITTER--which covers the entire national territory with a chain of high-performance links, based on Hertzian tropospheric supports on direct line of sight, and on automatic or semi-automatic and (soon) electronic telegraphic and telephonic switchboards. In the domain of data processing, significant developments are also expected, particularly with the completion of a data communications network which will connect together the military regions and divisions.

The same goes for the development of telematics and bureautique [translation unknown], words which soon will be familiar to any enterprise concerned about adapting itself to its age.

The /electronic civilization/ is only beginning. It is the communications arm, the arm of electronics, which will undergo both the rapid and the most profound changes in the decade ahead. This is its big chance, to be inexorably swept along by the dynamic of progress.

9516
CSO: 5500

COUNTRY TO BUILD RESEARCH SATELLITE

Stockholm SVENSKA DAGBLADET in Swedish 22 Aug 80 p 5

[Article by Hans Rehnvall: "Sweden Gets Own Research Satellite"]

[Text] The administration decided Thursday that Sweden will build a satellite for research of the earth's magnetic field. The satellite, named Viking, will help promote the Swedish space industry.

The State Space Agency, which developed the Viking-project (as described in SVENSKA DAGBLADET'S SCIENCE on 21 November last year), has now received the assignment from the administration to carry it further. The total cost of the project is estimated at 106 million kroner.

Magnetic Field Studied

Viking's scientific tasks are to study the outer parts of the magnetic field that surrounds the earth; and are affected by the radiation from the sun. This is important, among other things, for the understanding of such phenomena as the Northern Lights.

At the Space Agency, Viking's other tasks are considered just as important as the scientific ones: The high demand for quality, the demand for coordination within a large project, etc., will act as a stimulant for the Swedish space industry.

The plan is for Saab-Scania to be the main contractor, along with the American Boeing jet company as a subcontractor. Saab-Scania will carry the responsibility for scientific equipment, as well as the responsibility for the whole project in general, while Boeing will build the platform--the "mechanical" part of the satellite.

The plan is for Viking to be an extremely inexpensive satellite. The reason is that it will be launched along with a much larger satellite called Spot. Spot is mainly a French project, however, with certain Swedish interests. Spot is equipped with cameras for distance analysis of the earth's surface.

Spot and Viking will be launched with the European rocket Ariane from French Guyana in South America in May 1984--if all goes according to plan.

9583
CSO: 5500

END

JPRS 76731

30 October 1980

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 137

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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Indexes to this report (by keyword, author, personal names, title and series) are available from Bell & Howell, Old Mansfield Road, Wooster, Ohio 44691.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

JPRS 76731

30 October 1980

WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 137

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JOINT STATEMENT ON MEETING OF ASEAN NEWS AGENCIES REPORTED

BK161421 Hong Kong AFP in English 1331 GMT 16 Oct 80

[Text] Kuala Lumpur, 16 Oct (AFP)—The national news agencies of ASEAN (Association of Southeast Asian Nations) today agreed to implement a staff exchange programme as soon as possible.

The programme is aimed at promoting better inter-ASEAN understanding and familiarity among news agency journalists with the way of life, both culturally and professionally, of the peoples in the subregion.

This was disclosed in a joint statement here today at the end of a four-day meeting of news agencies of ASEAN.

The meeting reviewed the past year's activities on the practical aspects of co-operation among member agencies, especially the Press Bulletin Service [PBS] (ASEAN form of computerised news exchange network) now in effect among ANTARA (Indonesia), BERNAMA (Malaysia) and the Philippines News Agency (PNA).

Although encouraged by the effective implementation of the PBS from June this year, the meeting decided that there should be greater co-ordination of editorial efforts to ensure that news for exchange were suitable for the different audiences in the various ASEAN countries.

This, the meeting agreed, would encourage greater usage of PBS-transmitted news by the local mass media.

The statement said that the meeting felt that more improvements should be made in the flow of news exchange among participating agencies.

These should be done through:

"A common set of editorial guidelines,

"Strong emphasis on accuracy, speed and a high degree of professionalism, and

"Each agency intensifying its efforts to motivate its subscribers to use as many news items as possible from the ASEAN newspool."

The meeting also agreed that each agency should look into the creation of special desks to encourage specialisation by journalists in various developmental fields such as consumerism, environmentalism, education, agriculture, and industrial and economic development.

The meeting welcomed the statement by the chief delegate of the Thai news agency [TNA], Puan Orasa Khunawat, that TNA hoped to join the PBS news exchange network next year with the expected reduction by the Thai Government of the PBS tariff to 1,000 U.S. dollars a month, the same as for Malaysia and the Philippines.

The meeting urged all ASEAN countries to reduce their PBS tariff in accordance with the UNESCO recommendations.

The statement said that participating agencies agreed to make a common and concerted approach in seeking international assistance in assessing, selecting and obtaining the most appropriate form of computer technology and other modern systems to help improve their editorial operations.

Participating agencies also agreed that intermediate and advanced level journalism courses should be held on a regional basis for staffers of member agencies.

It was also agreed that each agency appoint a senior official to handle ASEAN inter-agency activities and liaison work.

In line with the principle of rotating the venue of the annual meeting among ASEAN news agencies, the TNA will be the next host.

CSO: 5500

BRIEFS

INDIA, CHINA NEWS EXCHANGE AGREEMENT--The UNITED NEWS OF INDIA [UNI] and the XINHUA news agency of China have signed an agreement for exchange of news. This is the first agreement to be signed between the news media of the two countries since communication links were snapped 8 years ago. The agreement was signed yesterday in Beijing by the UNI general manager Mirchandani and director of XINHUA, Zeng Tao. [Text] [SK181658 Delhi Domestic Service in English 1530 GMT 18 Oct 80]

CSO: 5500

TELECOM REPORTS RECORD INVESTMENT FOR CURRENT YEAR

Brisbane THE COURIER-MAIL in English 21 Aug 80 p 10

[Text] Canberra--Telecom will invest a record $1134 million on new works and services this financial year.

Telecom's acting chairman, Mr T.E. May, said yesterday: "We expect a business growth of around 11.5 percent and record demands for new services."

Local telephone traffic should grow by about 7 percent and STD/Trunk traffic by about 13 percent, he said.

Telephone services were forecast to increase by 7 percent, Telex services by 15 percent and Datel services by about 35 percent.

Mr May said that Telecom planned to recruit about 7600 people during the year. Nearly half of them would be school leavers.

By the end of June next year more than 3000 people in a staff of 89,000 would be undergoing technical training in Telecom, he said.

Mr May said about one-fifth of Telecom's expenditure needs would be obtained from public loans and the rest from retained provisions, mainly depreciation and the profit to be earned in the year.

The size of its works program could be gauged from the fact that:

--About 2500 new telephone, Telex and Datel services will have to be installed each working day.

--120 major engineering projects, each costing more than $500,000, (four will cost more than $10 million each) will be in progress or completed during the year. These include installations of equipment at major telephone exchanges and trunk line systems.

--In the $65,500,000 building program there are 80 buildings, each costing more than $250,000.

--Australian industry will receive orders at an average rate of $8 million a week during the year.

CSO: 5500

LOCAL INVENTORS DEVELOP CABLE TELEVISION SAFEGUARD

Perth THE WEST AUSTRALIAN in English 18 Aug 80 p 39

[Text] Two West Australian inventors have developed a computer security system to protect cable television transmissions--a technology that could have an international application.

They are an electronics expert, Mr Monte Sala, and Professor John Ross of the psychology department at the University of WA.

Their techniques in the computer field are well ahead of the Australian market, and initial sales will be aimed at the United States.

Mr Sala and Professor Ross have collaborated on previous inventions, including an electronic security system.

The new Sala-Ross invention operates on the basis that only those who have paid for the service should reap the benefits of cable television.

The cable signal is secured using devices called encryptors. Sala-Ross encryptors can be produced for between $250 and $300 whereas comparable systems cost between $2000 and $200,000.

At present the United States is faced with a "pirate industry" that has developed a means of stealing the cable television transmissions.

It is not illegal to sell the pirate equipment, and there are many outlets because the broadcasters did not foresee the problems associated with security.

Legislation has not been passed yet to protect the industry, which is why the United States is so interested in the Sala-Ross system of security.

Mr Sala said his encryptor could be described as "an electronic envelope" because it safeguarded the messages contained within it.

The Sala-Ross system boasts a multitude of codes.

If a computer was to investigate a million codes a second it would take 585,000 years to try all the combinations employed by the encryptors.

With such a high choice of codes there is a very low probability of the security system failing.

Mr Sala and Professor Ross have been backed by the Systems Research Institute of Australia, whose aim is to promote increased technology.

The Sala-Ross encryptor has received the go-ahead by the SRIA for a number of reasons, including the economical price, compact nature of the unit and the fact that it can easily be fitted to any computer or any terminal without modification to either.

Interest has been shown in the United States for the system and, as Professor Ross says, "because there is a market there that is where it will be sold."

CSO: 5500

BRIEFS

FM STATION IN WEST--Western Australia yesterday joined in the nationwide transmission of ABC frequency modulation radio. The new FM station officially went to air in Perth with a local programme at 1 pm and joined the nationwide transmission at 2 pm. The station will operate 24 hours a day. Adelaide is the centre of ABC FM radio, which also covers Sydney and Melbourne. Brisbane and Tasmania also joined the transmission yesterday. The ABC's FM controller in Perth, Mr Dennis Harrison, said that everything went well. There had been no problems with the time-delay system. In Adelaide, the programme is delayed for WA time and then sent across for transmission. The programme is heard at the same time through out Australia. Because of the time factor, news bulletins have to be updated in WA. West Australians will hear the voices of Perth ABC staff for news bulletins. All other programmes will be transmitted from Adelaide. Yesterday's programme consisted of a range of music from classical to folk. The station will also broadcast plays, documentaries and features from a selection of Australian and overseas productions. [Text] [Perth THE WEST AUSTRALIAN in English 1 Sep 80 p 42]

KIMBERLEY SATELLITE BID--The Federal Government has rejected a suggestion for the Intelsat satellite to be used to improve telephone communications to the Kimberley region. It has told the WA Government that Telecom will spend $10 million upgrading the land system to improve communications for people in the North-West. The honorary Minister for the North-West, Mr Laurance, said in Halls Creek yesterday that he had asked the Minister for Post and Telecommunications, Mr Staley, for the satellite to be used to provide a quicker remedy for communication problems. He had argued that if Intelsat could be used for television services to the area from October, it could also provide better telephone services. However, Mr Staley had said the proposal was not feasible. Intelsat circuits would need special equipment and would not result in a quicker or cheaper solution compared with the radio band. Technical considerations, timing, funding, providing economic circuits and the need to provide a modern communication system to intermediate towns and areas made the Hedland-Derby-Kununurra broadband radio trunk the best alternative. Mr Laurance, who is on a six-day visit to the Kimberleys said that nearly $1 million would be spent on converting many towns from manual to automatic exchanges, eliminating privately-built lines and connecting new subscribers. Mr Staley had told him that $400,000 would be spent on improving the lightning protection on the South Hedland coaxial cable system. Another $36,000 would be spent to improve the reliability of aerial circuits to the Kimberleys. This work would be completed before the start of the wet season. [Text] [Perth THE WEST AUSTRALIAN in English 27 Aug 80 p 40]

OUTBACK TELEVISION--Canberra--Australia will use the Intelsat international communications satellite to transmit television to some remote areas at Cooktown, Exmouth and Andamooka later this year. The use of Intelsat is an interim measure to provide ABC television services to remote areas before Australia's own domestic satellite is available. [Text] [Melbourne THE AGE in English 28 Aug 80 p 5]

SATELLITE DELAY SOUGHT--Canberra--The role of private enterprise in the ownership and management of a planned domestic communications satellite should not be considered by the Federal Government until next year, a Ministerial committee says. The committee, chaired by the Primary Industry Minister, Mr Nixon, is believed to have concluded that not enough information is available for an early decision on the role of private enterprise in the satellite. The Government aims to have the $120 million satellite operating by 1984-85. There have been differing views about the role private enterprise should have in ownership and management. [Text] [Melbourne THE AGE in English 2 Sep 80 p 3]

CSO: 5500

NATION PLANNING MICROWAVE TELEPHONE SYSTEM

New Delhi PATRIOT in English 2 Aug 80 p 7

[Text] Massive import of electronic equipment will be made to rectify the faltering telephone system in the country, Union Communications Minister C. M. Stephen said in the Rajha Sabha on Friday.

This had become necessary as the cross-bar system had proved disastrous, and 80 percent of the telephones were working on the outdated Strowager system.

Taking part in a motion by Mr Kalyan Roy's (CPI), calling attention to the sorry state of the telephone system in Calcutta and other parts of the country, Mr Stephen said the nation will switch to microwave in a big way.

The system was being indigenously manufactured, he added.

In India, only 35 to 40 percent of telephone calls made were successful, the Minister said. The ratio, the highest in the world, was 70 percent in London and Tokyo and 50 to 60 percent in Paris.

The microwave system will inter-connect exchanges, thus reducing reliance on cables which tended to go "haywire" during monsoons, Mr Stephen said. Once this was done, cables will only connect subscribers with their exchange.

The Minister assured Mr Kalyan Roy that he will look into the recruitment policy of the telephones department.

Mr Roy had charged that the officer cadre was being expanded and the number of workers was shrinking, even as their workload, on account of the increasingly failing system, was rising.

CSO: 5500

BRIEFS

TELEPHONE EXCHANGE FACTORIES--Bangalore, Aug 1--To meet the increasing demand for telephones, the Centre has decided to set up three factories to manufacture telephone exchange equipment. Stating this at a Press conference yesterday Mr P.K. Verghese, member, Telecommunications Operations, (P&T Board), said one of these factories would be set up at Rae Bareli with a capacity to manufacture 200,000 lines of crossbar equipment a year. This would be in addition to the factory already established by the State-owned Indian Telephone Industries to manufacture Strowger type exchange equipment. Since the future technology in telecommunications would be the electronic system, two factories, each capable of manufacturing 500,000 lines of electronic equipment, would be set up. Their location was yet to be decided. [Text][Calcutta THE SUNDAY STATESMAN in English 3 Aug 80 p 11]

CSO: 5500

BRIEFS

WIRELESS PAY TELEVISION--Tokyo, 16 Oct, KYODO--The Posts and Telecommunications Ministry has approved an application by Nikkatsu Corporation for a license to operate a wireless pay television station using ultrahigh frequency waves, a spokesman for the motion picture company said Thursday. Broadcasting facilities are to be built at the Nikkatsu film studio in Chofu, Tokyo. Nikkatsu's television broadcasts can be monitored in most parts of Tokyo, and parts of Chiba, Kanagawa and Saitama prefecture. About 5 million households will be able to monitor it, the spokesman said. Nikkatsu was the first organization in Japan to get a pay television license. [Text] [OW161439 Tokyo KYODO in English 0836 GMT 16 Oct 80 OW]

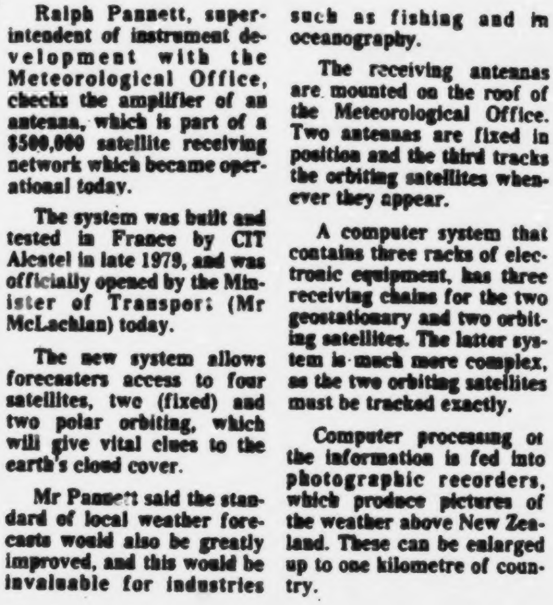
CSO: 5500

WEATHER SERVICE ACQUIRES SATELLITE RECEIVING NETWORK

Wellington THE EVENING POST in English 25 Sep 80 p 4

/Photo caption; photo not reproduced/

/Text/



Ralph Pannett, superintendent of instrument development with the Meteorological Office, checks the amplifier of an antenna, which is part of a $500,000 satellite receiving network which became operational today.

The system was built and tested in France by CIT Alcatel in late 1979, and was officially opened by the Minister of Transport (Mr McLachlan) today.

The new system allows forecasters access to four satellites, two (fixed) and two polar orbiting, which will give vital clues to the earth's cloud cover.

Mr Pannett said the standard of local weather forecasts would also be greatly improved, and this would be invaluable for industries such as fishing and in oceanography.

The receiving antennas are mounted on the roof of the Meteorological Office. Two antennas are fixed in position and the third tracks the orbiting satellites whenever they appear.

A computer system that contains three racks of electronic equipment, has three receiving chains for the two geostationary and two orbiting satellites. The latter system is much more complex, as the two orbiting satellites must be tracked exactly.

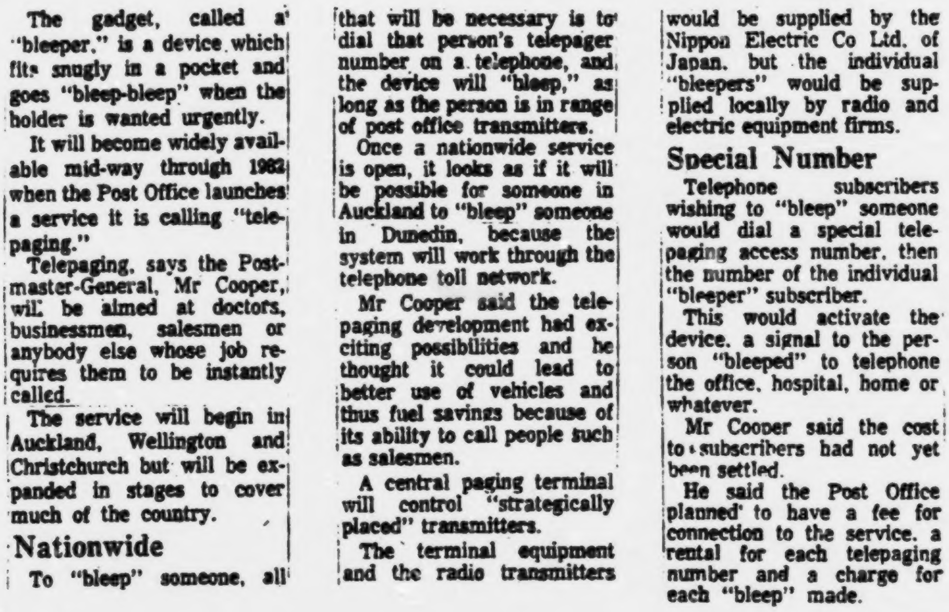
Computer processing of the information is fed into photographic recorders, which produce pictures of the weather above New Zealand. These can be enlarged up to one kilometre of country.

CSO: 5500

POST OFFICE TO LAUNCH TELEPAGING SERVICE IN 1982

Auckland THE NEW ZEALAND HERALD in English 15 Sep 80 p 1

/Text/ New Zealanders will soon be able to use a handy little gadget, which until now has mainly been seen in this part of the world only on television drama shows.



The gadget, called a "bleeper," is a device which fits snugly in a pocket and goes "bleep-bleep" when the holder is wanted urgently.

It will become widely available mid-way through 1982 when the Post Office launches a service it is calling "telepaging."

Telepaging, says the Postmaster-General, Mr Cooper, will be aimed at doctors, businessmen, salesmen or anybody else whose job requires them to be instantly called.

The service will begin in Auckland, Wellington and Christchurch but will be expanded in stages to cover much of the country.

Nationwide

To "bleep" someone, all that will be necessary is to dial that person's telepager number on a telephone, and the device will "bleep," as long as the person is in range of post office transmitters.

Once a nationwide service is open, it looks as if it will be possible for someone in Auckland to "bleep" someone in Dunedin, because the system will work through the telephone toll network.

Mr Cooper said the telepaging development had exciting possibilities and he thought it could lead to better use of vehicles and thus fuel savings because of its ability to call people such as salesmen.

A central paging terminal will control "strategically placed" transmitters.

The terminal equipment and the radio transmitters would be supplied by the Nippon Electric Co Ltd. of Japan. but the individual "bleepers" would be supplied locally by radio and electric equipment firms.

Special Number

Telephone subscribers wishing to "bleep" someone would dial a special telepaging access number, then the number of the individual "bleeper" subscriber.

This would activate the device, a signal to the person "bleeped" to telephone the office, hospital, home or whatever.

Mr Cooper said the cost to subscribers had not yet been settled.

He said the Post Office planned to have a fee for connection to the service, a rental for each telepaging number and a charge for each "bleep" made.

CSO: 5500

INDEPENDENT NEWS SERVICE FORMED IN WELLINGTON

Auckland THE NEW ZEALAND HERALD in English 19 Sep 80 p 3

/Text/

Press Assn Wellington

An independent news and information service, Newztel News Agency Ltd, has been formed in Wellington.

Using existing microcomputer technology and transmission facilities, Newztel intends developing a specialised service to individual clients, principally in the commercial and professional sectors.

The general manager is a Wellington journalist, Mr P. Acland, formerly a press officer in the Prime Minister's Department.

Separate Concept

Mr Acland said in a statement yesterday the Newztel system was based on an entirely separate concept from viewdata or any other scheme.

"Unlike those proposals. Newztel will not have to rely to any extent on mass communication facilities, such as television and telephone installations, which have always been an essential ingredient of viewdata," he said.

Independent

Newztel was an independent company without any affiliation to other interest groups, he said.

In Parliament, the Leader of the Opposition, Mr Rowling, said a company he later named as Data Link Ltd was about to "climb into the ring" and set up a viewdata service at the expense of the Post Office.

Mr Acland told the Press Association Newztel was not connected in any way with Data Link, a company he said he had not heard of till Tuesday night.

Mr Acland declined to divulge the names of other people involved in Newztel. Nor would he say when its services would start.

CSO: 5500

CONFERENCE DISCUSSES TELEVISION SERVICE

OW180739 Beijing XINHUA in English 0713 GMT 18 Oct 80

[Text] Beijing, October 18 (XINHUA)--China is expected to increase its television sets by two to three million a year, according to the country's TV station directors now holding a national conference in Beijing.

With 38 stations and a relay network of 238, China's TV service reaches some five million TV sets in the country, a figure soon to leap.

Four thousand readers' letters reach the central TV station every month. "We are going forward amidst applause and scolding," deputy director of the central TV station Dai Linfeng told XINHUA today.

The use of satellite ground station starting in April this year has made international news coverage prompter. Chinese TV spectators now follow closely the Iran-Iraq battles, Algeria's earthquake, UN conferences and international sports.

Quick developments in economic reform, covering integration of factories and trades, growth of collective ownership, new relations between farm production, factory processing and the market, receive growing attention on TV.

Domestic news breakthroughs include TV shows of court procedures and travel documentaries of beauty spots.

Facing severe criticism from TV viewers on the scarcity of new films, the TV station started its own productions. Forty-six TV plays from provincial stations entered the October 1 National Day TV programmes for the national service. On the proposal of Zhou Yang, chairman of the China Federation of Literary and Art Circles, a new art committee including noted musicians, dramatists, cinema artists and ballad singers will be set up soon to advise the radio and TV on literature and art.

Contracts of cooperation have been signed by the Chinese TV station with a number of countries including Yugoslavia, Romania, Korea, Britain, France, West Germany. One of the great hits that followed is a Chinese TV translation of Norway's TV production of Ibsen's "A Doll's House," shown with an introduction by leading Chinese dramatist Cao Yu. In his student days, he acted the role of the heroine Nora in the first Chinese stage production of the play nearly half a century ago. China has also cooperated with Japan in TV film production.

CSO: 5500

BRIEFS

SERBIA, GDR TELECOMMUNICATIONS COOPERATION--Belgrade, 17 Oct (TANJUG)--Zoran Nastic, republican secretary for communications of the Socialist Republic of Serbia, today received Dr Rudolf Schulze, deputy chairman of the Council of Ministers and minister of posts and communications of the GDR. They discussed possibilities for cooperation in the field of telecommunications and the situation in the communications system and the problems of its development. They also discussed possibilities for cooperation in the field of production of equipment for telecommunication systems. Rudolf Schulze, vice chairman of the GDR Council of Ministers, showed interest in buying equipment from Yugoslav producers. [Text] [LD171214 Belgrade TANJUG Domestic Service in Serbo-Croatian 1058 GMT 17 Oct 80]

CSO: 5500

BRIEFS

CUBAN, GRENADA AGREEMENT--Cuba will send technicians to Grenada to install a new transmitter for the official radio station Radio Grenada, will supply spare parts for the equipment and will grant scholarships to Grenadian youths who will specialize in its maintenance, according to an agreement signed by the two countries. This agreement will make it possible for the broadcasting station to be heard in all Grenadian regions, some of which were not able to get the service. [Text] [FL171310 Havana Domestic Service in Spanish 1100 GMT 17 Oct 80 FL]

CSO: 5500

CRISIS OVER FOR TELECOMMUNICATIONS SECTOR

Sao Paulo O ESTADO DE SAO PAULO in Portuguese 31 Aug 80 p 43

[Article by Eliezer Salles, Brasilia Bureau]

[Text] With more funds allocated for the next fiscal year, the minister of communications hopes to avoid the crisis that was imminent as a result of reduced investment in his area of activity, from which even funding from the National Telecommunications Fund (FNT) has gradually been withdrawn since 1975. Minister Haroldo Correa de Mattos told O ESTADO that "the spectre of crisis has been dispelled," and he explained the basis for his statement: "We have been well-treated in the 1981 budget."

He himself had already expressed his concern at the obstacles the companies in the TELEBRAS Brazilian Telecommunications, Inc have been encountering, including a rate policy inconsistent with the nation's economic situation and the transfer of FNT funds to other activities, and he warned that the country faced the risk of extremely serious consequences in the immediate or near future. "Without expanded services," the communications minister said, "there will be traffic congestion and tieups in domestic and foreign operations. Whereas in the 1960's the country could tolerate the irritating congestion of that period, Brazilian society today cannot afford the effects of a new and greater congestion."

Before the new budget was announced, this was the prospect, with reductions in the investments planned for the TELEBRAS system, which fell from an index of 100 in 1976, with the largest investment, to an index of 46 in the current fiscal year. Investments in the system were about 60,056,000,000 cruzeiros in 1974, and reached 83,621,000,000 cruzeiros in 1975, both figures based on the 1980 value of the cruzeiro. After 1976 there was a yearly decline.

Investments in TELEBRAS System
(1980 cruzeiros)

Year	Million Cruzeiros	Index
1976	105,261	100
1977	93,790	89
1978	80,536	76
1979	73,456	70
1980	48,980	46

Source: Communications Ministry

Congestion

In November 1972, when TELEBRAS was created, there were 2.38 million telephones in Brazil, or 2.4 telephones for 100 inhabitants. In the following year, 950,000 subscriber terminals were contracted for, and another 1,085,000 were ordered in 1974. The volume of contracts for these terminals is considered the major indicator of investment in the sector. The TELEBRAS system already had 1,962,000 terminals installed by the end of 1973 and was planning for 100 [sic] more within a short time. This was possible, Minister Mattos recalled, because the sector had resources, including sources of nonexigible funds--the FNT, promissory notes (self-financing) and reasonable rates, capable of covering operating costs, depreciation and repayment of investments.

However, the FNT funds began to be transferred to other activities. The new law regarding corporations created difficulties in self-financing. The IPI [Finished Goods Tax] exemption and other exemptions on which the companies in the system relied to reduce the cost of their investments were terminated, and the rate became unrealistic. According to recent estimates by Communications Ministry exports, using an index of 100 on 1 January 1973, inflation brought the index to 1,000 in February of this year and to 750 for the interurban rate. In the current fiscal year there have been two rate readjustments for the system, one of 30 percent on 1 February and another one of 11 percent on the first of this month. There will only be one more readjustment, already planned, of 11 percent on 1 October.

Restrictions on investments began in fiscal year 1975. Given the level of indebtedness it had already reached, the sector restricted itself. Contracts for terminals were cut back. As it takes years to bring projects to completion, the number of terminals and telephones installed continued to rise significantly even after the restrictions initiated in 1975, but the effects of the reduced contracts in 1976, 1977 and 1978 are also appearing in the system this year, and will be felt in 1981 and 1982.

Contracting and Installation of Terminals

Year	Contracted (X 1,000)	Installed (X 1,000)
1973	950	
1974	1,085	279
1975	470	337
1976	346	776
1977	200	733
1978	363	617
1979	398	459

Source: Communications Ministry

Unmet Demand

The reduction in terminal contracts aggravated the unmet demand, initiating a process of network congestion, O ESTADO learned from Engineer Romulo Vilar Furtado, secretary general of the Ministry of Communications. Thanks to measures to improve operationality, it has been possible to avoid the effects of this congestion.

The companies in the TELEBRAS system are redoubling efforts to increase productivity. In Rio de Janeiro, the CETEL [Guanabara State Telephone Co] experimental party lines are an example of this effort. Two instruments can be used on one line by two subscribers who use the telephone infrequently. Calls cannot be overheard on party lines, which offer the advantage of greater productivity at less cost to the user.

Despite measures to improve operationality, even though the outlined crisis has been avoided, the effects of the congestion could still manifest themselves in the next few years. This possibility is not denied by the secretary general of the Communications Ministry. In his expert opinion: "Thanks to the recent government decision granting funds to the sector, we may be able to overcome this congestion."

Use of FNT Funds

Heeding the warning of Minister Mattos, the Secretariat of Planning of the Presidency of the Republic has come to recognize the problems of the telecommunications sector, and has allocated funds for more investments. It is possible that FNT revenues will no longer be transferred to other activities through the FND (National Development Fund), as has been the case. Up to 1974, all FNT revenues were applied to the TELEBRAS system. After 1975, these resources were no longer considered to be for the exclusive use of the system, which received only 45.3 percent of the revenue in 1979. Last year, in addition to the transfer of 4,497,000,000 cruzeiros of FNT revenues to the FND, part of the funds (2,346,000,000 cruzeiros) were held back under the provisions of Decree-Law 1,678/79, which instituted a containment reserve with portions of receipts committed to the federal government.

The FNT is formed with revenues from a tax paid by telephone users, corresponding to 30 percent of their monthly subscription rate, plus measured service and interurban calls. Hence, the transfer of its resources is debatable.

FNT Revenues and Their Application
(in millions of cruzeiros at 1980 values)

Year	Gross Receipts	Applied to TELEBRAS system	Diverted from FNT	Cumulative Loss
1974	10,120	10,120	...	...
1975	13,751	12,376	1,375	1,375
1976	14,143	11,314	2,829	4,204
1977	16,710	12,228	4,482	8,686
1978	25,978	16,150	9,828	18,515
1979	21,464	9,737	11,727	30,241
1980*	26,000	13,200	12,800	43,041

* Estimated

Source: Communications Ministry

6362
CSO: 5500

BRIEFS

CPA CONTRACTS STAND--Sao Paulo (O GLOBO)--Communications Minister Haroldo Correa de Mattos said yesterday that contracts will be honored which have already been signed with firms manufacturing telephone equipment to supply central offices controlled by stored programs (CPA's) of the spatial type in the TELEBRAS [Brazilian Telecommunications Co] system. According to the minister, the major contract was signed with Ericsson to supply 50,000 terminals. The other contracts to be honored do not involve a significant number of terminals. "The other contracts we have signed will be carried out, but the government is studying, together with the manufacturing firms, the feasibility of dropping the phase of the space-system CPA, which represents an intermediate stage between electromechanical central offices and time-system CPA's, and concentrating our efforts on this last stage," Mattos said. The communications minister was in Sao Paulo to inaugurate the private system of operations by telephone (SPOT) of the Sao Paulo Securities Exchange. Using a SPOT line, the minister spoke with his colleague Delfim Netto, chief of planning, in Brasilia. He publicly thanked Netto for the "teaspoonful, or rather soupspoonful, that I received," i.e., the budget allocation for the TELEBRAS system this year, which represents 80 percent of the sum Mattos requested from SEPLAN [Planning Secretariat]. [Text] [Rio deo Janeiro O GLOBO in Portuguese 4 Sep 80 p 20] 6362

CSO: 5500

NEW TELEPHONE LINES, DIRECT DIALING SYSTEM INSTALLED

Santiago TERCERA DE LA HORA in Spanish 9 Sep 80 p 13

[Text] Over the next 36 months, the Telephone Company will install a total of 153,700 electronic dial telephones. This new equipment will enable the company to have a centralized headquarters for operations and supervision and will provide it with systems for the automatic detection of defects in telephones of subscribers.

In addition, as part of the company's overall modernization plans, long-distance direct dialing went into effect on the 1st of the month between Santiago, Valparaiso and Concepcion, thanks to the advanced equipment installed at the Limited Local Service.

These advances were described yesterday at a noon press conference given by the company's general manager, Col Sergio Moller Escala.

Moller said that of the 153,700 planned lines, 100,000 will be used for expansion purposes and the rest to replace old equipment operating in Santiago and Valparaiso for over 50 years. "This expansion and improvement in service is part of the 1981-1983 program," Moller said, "because in the interim, we are developing a program called 'Committed Technology' (Pentaconta) which is being used throughout the world and whose features are now found at the most recent plant we put in operation, La Serena-Coquimbo. The plant has 5,000 lines and the capacity to triple or quadruple that number within a very short period of time."

New Lines

Returning to the subject of the installation of 153,700 new lines over the next 36 months, the general manager of the Chilean Telephone Company emphasized that in its history, there has never been an undertaking of this scope within such a short period of time. The number of lines is equal to over 50 percent of the installed capacity in Santiago. Furthermore, the project implies an accelerated process of modernization in the company since along with the new lines, a substantial modification will be made in the maintenance systems. There will be new systems for the automatic detection of defects in equipment and centralized control centers will be set up to achieve better quality in telephone service.

According to the plan, the 153,700 lines include the replacement of some 65,000 and the incorporation of 10 locations into automatic service, taking the place of some 9,000 lines with manual operation. This work will be done in the metropolitan region (100,000 lines), Region 5 (26,000 lines), Region 8 (10,000 lines) and other areas in the country (17,000 lines). The investment amounts to $40 million.

Direct Dialing

Concerning direct dialing, Colonel Moller said that beginning on 1 September, 215,000 subscribers in the three main cities (Santiago, Valparaiso and Concepcion) have been able to make long distance calls without going through an operator.

This modern service may be used by 191,630 subscribers in the Oriente, Centro-Norte and Sur de Santiago sectors, 14,920 in Valparaiso and 9,360 in Concepcion. Calls made in this manner will enjoy a 10-percent discount on rates charged for long distance, station-to-station calls. These figures represent nearly 70 percent of all subscribers in the three cities mentioned. The remaining 30 percent will be able to use the new system within 90 days.

Codes

Subscribers covered by Distant Direct Dialing (DDD) must first dial Code 03 before the number they wish to call in Valparaiso and Code 041 for Concepcion. In this way, they may dial all automatic telephones in these two cities. Inversely, calls from Valparaiso and Concepcion to the capital must use Code 02, which connects with all telephones in the metropolitan area.

It is not then necessary to request calls using Code 108 (long distance).

During this first phase, DDD will cover telephones beginning with the following: Santiago, Oriente Sector: Pedro de Valdivia Plant 1, 2, 3 and 4, telephones beginning with digits 4, 46, 49, 25, 74, and 23; Las Condes, those beginning with 48 and 28; Apoquindo, those beginning with 29, 20 and 24, making a total of 85,980 subscribers.

Centro-Norte Sector, main plant 1 and 4, those beginning with 8 and 72; Santa Isabel, those with 22; Santa Lucia 1 and 2, those beginning with 3 and 39; Independencia 1 and 2, those beginning with 37 and 77; Yungay, those beginning with 73. The total number of subscribers in this sector enjoying the service is 50,380.

Sur Sector: Las Rejas Plant, those beginning with 79; Maipu, those beginning with 57; La Cisterna, those beginning with 58; and Chiloe, those beginning with 51. Total: 35,360.

Vina del Mar: Planta Libertad, those beginning with 97, and Planta Recreo, those beginning with 6. In Valparaiso, Planta Huito, those beginning with 2, 3, 4 and 7. Total: 14,920 subscribers. Finally, Concepcion, those beginning with 2, making a total of 9,360 subscribers.

The company has sent every subscriber covered by direct dialing a circular providing instructions for using the service and listing rates for 3-minute long distance calls, which would be as follows: from Santiago to Valparaiso and vice versa, 80.63 escudos; from Concepcion to Santiago and vice versa, 140 escudos; and from Valparaiso to Concepcion and vice versa, 140 escudos.

11,464
CSO: 5500

BRIEFS

SATELLITE LINK STATIONS--Mexico City, 8 Oct (EFE)--By 1982 all of Mexico's territory will be covered by television and telephone, Secretary of Communications Emilio Mujica Montoya announced today. Mujica signed a contract with Emilio Azcarraga, president of TELEVISA, one of the world's most important Spanish-speaking television companies, for the construction of 80 satellite link stations to send television and telephone signals. TELEVISA will invest some $8.8 million in the construction of 46 stations of this kind according to the stipulations of the Mexican authorities. The secretariat of communications and transports, meanwhile, will build 34 other stations at a cost of $3 million. The agreement, according to Mujica, is in line with the wishes of the government, with the support of TELEVISA, to expand the nation's communications infrastructures. Mujica stated at the signing ceremony that the television and telephone signals will reach 25 to 30 percent of the nation's population, which up to now was without this service, in some 9,000 small towns. He added that Mexico is already looking into having its own satellite and that it has contacted France and Canada, among other countries, for this purpose. However, he explained that this will not be possible for 4 years. Therefore, use of the existing satellite is foreseen and Mexico has the collaboration of TELEVISA. Miguel Aleman, executive vice president of TELEVISA, commented that the agreement is an example of joint effort for the good of the nation. [Text] [PA110111 Madrid EFE in Spanish 0417 GMT 9 Oct 80]

CSO: 3010

BRIEFS

TELEPHONE EXCHANGE CONTRACT--CIT-Alcatel has just obtained two orders in the Middle East concerning its temporary telephone system "E-10" in Saudi Arabia and Bahrain. CIT-Alcatel will provide its system of temporary communication "E-10" to service the new city of Jubayl in Saudi Arabia (110 km north of Dhahran). This contract which involves 40,000 lines will use the CGA-Alcatel informational skills. An extension of the temporary telephone network "E-10" of Manama, which has been functioning since January 1980,will be provided to the Bahrain Telephones, the local company exploiting the telephone network. [Text] [Paris ELECTRONIQUE ACTUALITES in French 26 Sep 80 p 13]

CSO: 5500

BRIEFS

NEW 'KUNA' HEADQUARTERS--The KUWAIT NEWS AGENCY, KUNA, is to build a new headquarters following recently announced world-wide expansion plans. Overseas offices are to be established, linked by a highly sophisticated communications network via satellite operating 24 hours a day. KUNA aims to become the largest news agency in the Middle East. Tenders for the new building in central Kuwait will be invited next month. [Text] [GF111230 Manama GULF MIRROR in English 11-17 Oct 80 p 2]

CSO: 4820

SAUDI ARABIA

NEW TELEPHONE EXCHANGES OPENED

Jiddah ARAB NEWS in English 2-3 Oct 80 p 3

[Text]

TAIF, Oct. 1 (SPA) — Two new advanced telephone exchanges went into operation Wednesday in Kharmah and Turba areas. They will add 2,000 more telephone lines to the Western Region telephone service. Hamouda Ridda Subhi, acting Taif telephone director, dedicated the Turba exchange Wednesday in the presence of Deputy Mecca Governor Prince Saud ibn Abdul Mohsin.

During the opening of Kharmah exchange Tuesday, Subhi described the facility as one of the most advanced to be installed in remote areas. Saudi Telephone's master plan he added, is not confined to cities only, but also covers villages and remote areas.

Prince Saud made the first phone call from the new exchange to the emir of Turba, Sheikh Abdul Aziz Al-Masoud. The deputy governor expressed his pleasure for the achievement and said this was one of the quick steps to progress in the life of a society adopted by the government to link various areas of the Kingdom to each other and to the rest of the world.

Meanwhile, Saudi telephone announced that serious inconvenience and sometimes danger, caused by cut or damaged telephone cables can be prevented by Saudi Telephone's Cable Location Service, but the co-operation of digging contractors is required.

While an analysis of recent statistical reports indicates that the number of cables damaged per 1,000 working lines has dropped dramatically, even one cut or damaged cable can deprive a subscriber of his telephone service.

The universal warning of "Call before you dig" applies to both private citizens and companies who plan to excavate in an area where telephone cables may already be placed.

The elimination of cable damage can be assured by calling Saudi Telephone. The current numbers for cable location service are: Riyadh — 457-1721, Dammam — 906, Jeddah — 667-107, Taif — 94 and Mecca — 94. In other areas, cable location service can be provided through repair service — 94 or 904.

Eventually, cable location services in all cities will be reached through the special service number 906. This change, for example, will take place in Riyadh on 1 Moharrav 1401. Saudi telephone will keep the public informed of these changes.

Saudi telephone employees will provide maps and diagrams, and will visit construction sites to pinpoint the exact location of telephone cables. This free service is a worthwhile investment of time and effort for both contractors and subscribers.

CSO: 5500

ARABIC-LANGUAGE COMPUTER TECHNOLOGY POTENTIAL DISCUSSED

Arabic-Language Minicomputers

Tunis LA PRESSE DE TUNISIE in French 9 Sep 80 p 4

[Text] Mr Moncef Bel Hadj Amor, deputy minister to the prime minister for the Civil Service and administrative reform, and Mr Firmin Bernasconi of the Intergovernmental Bureau for Computer Technology (IBI) yesterday signed an agreement at the main office of the National Computer Technology Center (CNI) providing for the development of a certain number of computers falling into the "mini" category, a set of data-processing tools programmed in Arabic and operated on the basis of software utilized in this field.

Tunisia will in this way assure itself of technological expertise with regard to certain important points involved in the design and operation of computers. Aside from the obvious technical interest generated by such a project, the economic interest lies in the fact that all the Arab countries will have access to the information thus stored thanks to the availability of Arabic-language computers, using Arabic letters in conformity with the recommendations of the Committee for the Programming of Computers in Arabic, a subsidiary of the IBI.

Furthermore, this project will create the fundamental basis for an Arab computer technology.

About a dozen Tunisian engineers employed by the CNI and a certain number of international experts will be required to set the project in motion.

It will take about 2 years to complete it and it is estimated that it will cost a million dinars, with Tunisia providing 200,000 dinars and the IBI the rest.

At the time of the signing of the agreement, Mr Moncef Bel Hadj Amor stressed the importance the government attaches to this sort of project, which represents an important phase for Tunisia in mastering key technologies so that it can go beyond the assembly phase and attain a higher level of industrial integration.

Computers That Think in Arabic

Tunis LA PRESSE DE TUNISIE in French 11 Sep 80 p 2

[Article by S.B.S.]

[Text] The 8 September 1980 ought to be marked as a red-letter day in the history of Tunisian computer technology. Constituting a turning-point in the evolution of computer technology here, the agreement signed last Monday by Moncef Bel Hadj Amor, deputy minister to the prime minister responsible for the Civil Service and administrative reform, and Firmin Bernasconi, director general of the IBI, will enable Tunisia to inaugurate a new phase: that of computer design.

The official communique indicates that the agreement will enable Tunisia "to develop a certain number of computers falling into the 'mini' category, a set of data-processing tools programmed in Arabic and operated on the basis of software utilized in this field." For Mr Bernasconi, who discussed the agreement and its implications with us at some length, this quite simply and in plain language involves the programming of computers in Arabic, getting them to think in Arabic. Technically and for the CNI, which will manage the operation, it involves a transformation of the computer programming language in order to set up programs (or software, a word Mr Bernasconi avoids) directly in Arabic.

Of Interest to Tunisia and the Arab World

Aside from the obvious interest in the technique, the production of computer programs in Arabic will afford all the Arab countries access to this new technology thanks to the availability of Arabic-language computers using Arabic letters. In the long run, the CNI-IBI projects will create the fundamental basis for the development of an Arab computer technology. Now to achieve this objective the IBI or the two organizations jointly, given the very close relations liking them to one another, will have a long row to hoe. Thus, since 1977, an Arab Computer Technology Committee (COARIN) has been organized inside the IBI under the chairmanship of a CNI director. The committee, which has met on several occasions, has succeeded in unifying the two schools of thought on Arabic-language computer technology (Moroccan and Iraqi) in order to create the Kodar U (representing union, unity) which, moreover, will provide the basis for the CNI-IBI project. Furthermore, the IBI will transfer all its know-how on the subject to the CNI and assign it experts for the purpose of completing the programs in question in 2 years time in collaboration with local engineers.

Will an Economic Interest Be Involved?

Let us bear in mind that, while the project requires an investment of a half a million dinars, the CNI's share of this will amount to only 200,000 dinars. As for the CNI, it will retain operations and marketing rights.

And in view of the technological interference involved in adapting to conditions existing in the Arab countries, Tunisia and the CNI will have the best of the deal in developing this technology along new lines of thought for the benefit of an ever more important and ambitious historical and cultural identity. For Tunisia, it is a question of doing credit to its new position as headquarters for the League of Arab States, precisely by enabling the Arab countries to gain a foothold in this new, key computer technology.

We Have the Brains

For Mr Slaheddine Karoui, president-dierctor general of the CNI, "creating a computer industry is difficult in terms of both technology and marketing. However, the computer industry does not consist only of building computers. It can take several forms. It can consist of building computer supports, terminals, printers...

"The other aspect of the project which I personally am particularly interested in is the software set-up. The software set-up is nothing more than gray matter. In some countries, like Tunisia, this gray matter is available. It is imaginative, creative and is capable of achieving a great deal." The CNI-IBI project, aimed at producing Arabic-language computer programs (or software), therefore comes under the heading of that strategy which consists of going beyond the assembly phase to attain a higher level of industrial integration."

The IBI: an Organization With a Third-World Vocation

For Mr Bernasconi, the IBI is an organization working in the service of developing countries and administered by those countries. In fact, of the 30-odd member nations, only France, Italy and Spain represent Europe and the Western countries and Great Britain plans to join the IBI soon.

Mr Bernasconi feels that Britain's admission will counterbalance France's weight. The Arab countries are not any more numerous [than the Western countries] in the IBI. Aside from the three Maghreb countries: Tunisia, Algeria and Morocco, the Middle East is represented only by Lebanon, Iraq and Jordan.

Therefore, for the IBI, which has been in existence since 1961, it is first of all a matter of consolidating computer technology in the developing countries: the various formulas for granting aid it has dreamed up for these countries (technical assistance scholarships, occupational training, pilot programs, joint assistance programs (PAC) that bring together the IBI and two member nations, one industrial and one undergoing development, for the execution of a tripartite project, and program benefiting the latter, and lastly the production of software in Tunisia).

These formulas thus correspond to a clearcut strategy. Before eventually opening the IBI to the biggest computer powers, the United States or Japan, for example, it is a question of first providing member nations with a whole computer technology and human environment that will permit them to resist any kind of pressure.

11,466
CSO: 5500

ZBC TESTS COLOR TELEVISION TRANSMISSION

Salisbury THE HERALD in English 10 Oct 80 p 1

[Text]

COLOUR television signals were beamed from ZBC's Salisbury transmitter for the first time yesterday morning, but the corporation is not about to launch a colour service.

The corporation was testing a new colour generator which beams a new-look test pattern used to help technicians adjust receivers.

The test pattern was monitored on several colour receivers installed at the WRS factory in Hanover Road in the industrial sites yesterday.

The technical manager (transmitters) for ZBC Mr Royston Colam, was quick to discount any suggestion that colour television was about to be launched in Zimbabwe.

"We were testing for the first time a new colour generator which will replace the old checkerboard test pattern, which is obsolete," he explained. "Naturally we aim to introduce colour TV one day and our policy is to buy compatible equipment when replacing old units

"In fact, it would be too costly to buy a black and white or monochrome generator today because it would have to be specially made."

ZBC will have to replace its 20 - year - old Salisbury transmitter before it can beam colour signals successfully.

Mr Colam said the old transmitter "just doesn't have the performance to beam colour signals, although some of our newer transmitters will".

Asked how the WRS technicians were able to receive the colour test pattern, Mr Colam said the "more expensive" type of colour receivers will carry the colour picture "but most sets cannot"

A brochure explaining how to use the new colour test pattern is to be distributed by the Zimbabwe Domestic Electrical Association.

The association's chairman, Mr Darby Domoney, said yesterday: "Our members welcome the new test pattern, which is a big improvement over the old one and will provide much more information for technicians."

He warned viewers "not to get too excited" about the possible advent of colour services in Zimbabwe. "This is still at least two years off when one considers the present level of currency allocations for new monochrome receivers," he said.

WRS's technical director, Mr Derek Russell, said his company could supply colour television receivers within three months, "given Government approval and the necessary foreign currency".

CSO: 5500

POSTAL, TELEGRAPH AGENCY TO START TELEDATA TESTS

Copenhagen BERLINGSKE TIDENDE in Danish 30 Sep 80 pt II p 3

[Article by Michael Rastrup Smith]

[Text] In the course of the coming year, the Postal and Telegraph Agency will be starting tests heralding a TV technological revolution.

A revolution just as significant as when man taught himself to read and write, is on its way. We are moving rapidly into the information age. A new epoch when it will be just as important to possess lots of information as kroner and ører.

For economic reasons, large enterprises have, so far, been the only ones to possess computers, but the enormous expansion and development within the electronics industry have now made it possible for private persons to computerize their everyday lives as well.

The home computer will be introduced in Denmark in mid-1981. The Postal and Telegraph Agency and the three telephone companies which are launching the system call the 'easy chair' computer Teledata. In short, general subscribers will, by means of their telephones and television sets, be able to draw on an unlimited amount of information, ranging from information from the public authorities to offers from business firms and industry.

Two Hundred Subscribers to Get Teledata

For a period of 2 years, Teledata will be run as a test program. A total of 200 people will be given a special color TV set, costing 10,000 kroner. Via a program selector, with numbers and alphabet which come with the set, they will, in addition to the regular programs, be able to tune in on Teledata.

The Teledata information will be stored in two computers. One is to be located in Copenhagen, the other one in Århus. During the test period, the subscribers will be given the possibility of tuning in on 40,000 different pages of information. But the number of pages may gradually be increased without limits.

So far, 32 different organizations and enterprises have indicated that they are interested in providing information for Teledata. They have been divided into eight categories.

Travel agencies will provide information on destinations, hotels, vacant trips and costs.

The Danish Press Association will also be participating. A news service may conceivably be set up, and various forms of advertising may be provided.

A third category includes libraries, publishing houses and bookstores. It will here be possible to present all the titles which a library has available. It is also conceivable that a publishing house will provide access to an entire encyclopedia.

Tax Computation

There is also a cetegory comprising public services. Here, the State Information Service will be providing information. The EC Information Office is also expected to participate in the system.

One branch comprises service organizations, for example EDP centers which may conceivably offer various forms of EDP services, such as computation of the subscriber's tax payments, or computations of mortgage payments, etc.

The Consumer Advisory Council will also be participating, for example by providing objective consumer information on goods and services. And the pamphlets of the Consumer Advisory Council will naturally become part of the program.

Department stores and multiple stores constitute an independent category. They will conceivably be providing information on their most important commodity groups and descriptions of these articles.

Financial Institutions

Finally, the financial institutions will be participating. For, once the test period of 2 years is over, the subscribers may become able to transfer funds from their accounts for example to a travel agency where they have just booked a trip. During the test period, however, it will only be possible to collect information via Teledata.

Teledata will be operating by means of alpha-numerical scanners. That implies that the subscriber will strike a code word, for example 'Consumer Advisory Council.' This will give him direct access to the pages containing information on the Consumer Advisory Council. The system is a major improvement over the systems used in other countries.

J. F. Pedersen, marketing manager and the project chief of the Postal and Telegraph Agency, says:

"By means of Teledata, it will, moreover, be possible, in the future, to send messages from one subscriber to the other. The subscriber need not be at home to receive a message. A special text will indicate that there is a message in store for him as soon as he switches on the TV."

"If the test operations prove successful, the number of participants may be increased to 400. However, if it is decided that we shall be getting the system, there is no limit to its expansion. To the average family, the annual costs will range from 1,000 to 4,000 kroner."

Once the home computers have been introduced, a lot of things will be changing. Formally, it will be up to the politicians to decide whether or not we shall be getting them. But, in the opinion of some people, there is no way back. Computers will rapidly become an integral part of our everyday lives, and will thus become indispensable.

7262
CSO: 5500

NATION'S COMPUTER TECHNOLOGY FUTURE EXAMINED

Paris L'EXPANSION in French 19 Sep 80 pp 133-135, 137, 139

[Article by Francois de Witt]

[Text] The traditional pile of technical magazines in the minister of industry's waiting room has disappeared, replaced by a screen equipped with a keyboard. The visitor, after being asked to "wait a few minutes," quickly realizes that it is a computer terminal. Invited to test his knowledge, he loses no time in starting a semblance of dialog with the machine and discovers, for example, that by 1982, 300,000 French citizens will have a home computer (including programmable games), or that in 1985 the total number of computers in operation will equal 8 percent of the working population, compared to 1.95 percent this year.

Intrigued by those figures, our neophyte is offered and accepts more information. But unfortunately, at the moment of the great revelation, the machine gives him an order ("erase in line: 0" [in English]) that he would not understand even if he spoke English! He may tap frantically on the green key, ask the machine to repeat, or consult the usher on duty, but none of it does any good: the microcomputer obstinately repeats its enigmatic formula. In short, it may be true that the computerization of society is well underway, but its language has not yet been completely debugged.

Yes, data processing has worked its way into France. Proof of this is to be seen not only in the growth of computer shops but also in the 10 seminars sponsored in the space of 6 months and in the sale of 100,000 copies of an official document, the now famous Nora-Minc Report. Sales solicitation, whether from manufacturers, software firms, or the government (see "The Data Processing Encyclopedia" on p 177 [not included]), is growing more and more insistent. Jean-Pierre Bigard, who is controller at Lemercier and Company, a water heater manufacturer with 800 employees, says: "Not a day passes without my receiving proposals for new equipment or a new application."

How does the potential user--whether plant manager, teacher, hairdresser, or family head--react to those solicitations, all of them strongly buttressed with talk about faith in progress, the necessity of being competitive, assistance in decisionmaking and--their chief argument--a steady drop in equipment prices?

There is no doubt that the first tangible result of the plan for computerizing society--launched in 1977 by the Nora-Minc Report and then duly formalized in December 1978--was an increase in awareness. For the government, data processing is one of the few activities likely to enable France to resist the rising tide of industrialization in the Third World. Consequently, neither the Ministry of Industry nor the Secretariat of State for Postal and Telecommunications Service hesitated to pull out all the stops: they had recourse to publications, lectures, purchase orders to industrialists, and financial assistance through the intermediary in particular of two new administrative bodies established in 1979: CODIS (Committee for the Development of Strategic Industries) and the ADI (Data Processing Agency).

While new expressions such as "office automation," "telematics," and "robotics" were becoming part of the current vocabulary, newspaper readers and television viewers were learning that besides computers, there also existed things such as data banks, "intelligent" typewriters, coded payment cards, computer-aided design, or flexible automated workshops, all of them tools arising from the same source: data processing.

Like Mr Jourdain, Who Spoke Prose

But those were sophisticated systems, apparently unavailable to the majority and surrounded by the combination of fascination and distress conveyed by "advanced technologies." Moreover, recent years have seen the introduction of digital technologies into such everyday items as watches, toys, telephones, and washing machines without the users always being really aware that by operating those things they were "doing data processing" the way Mr Jourdain spoke prose. The refusal to call a spade a spade--except in the case of the dashboard computer, which has appeared in some car models--has perhaps meant failure to take advantage of the opportunity to bring the computer down into the everyday arena for good and to break certain psychological barriers. Thank God, that has not prevented the data processing market from growing at a surprisingly constant rate. Except for a single pause noted in 1976, the market has grown by between 20 and 25 percent in volume for the past 15 years, while turnover has risen by from 15 to 20 percent. Such growth rates are enough to make any industrialist turn green with envy.

It is not surprising that a still adolescent market should be developing at such speed, especially when so few potential users are currently equipped with computers. Let the reader judge for himself: while it is true that 90 percent of all industrial and commercial firms with more than 1,000 employees (see the table near the end of this article), 60 percent of all CPA's, and 13 percent of all notaries have some sort of data processing equipment, those percentages fall to almost zero when we get into the world of medicine, small business, small and medium-size industry, the lycee, and the home. According to a necessarily empirical estimate by the DIELI (Directorate of

Electronic and Data Processing Industries of the Ministry of Industry), the PME [small and medium-size businesses], the liberal professions, teachers, department heads in large firms, and households whose "data processing purchasing power" is compatible with the lower range of equipment represent a potential market of about 700,000 customers. At present, however, the number of computers of this type in service (excluding administration and management) scarcely exceeds 60,000 units. In short, the process of computerization in that area has not reached even one-tenth of its potential.

But it is making progress. Each year 5,000 new firms buy a computer, while 10,000 others have their payrolls, billing, and general accounting done by service bureaus. An even more significant fact: according to surveys by the Remy Genton Institute, the consumption of data processing equipment between 1975 and 1979 grew twice as rapidly as the number of firms with computers. This is striking proof of the vitality of the "data processing virus." In the opinion of Remy Genton, the decade just past was a "decade of equipment buying," and the users will now slip gradually, and perhaps without their knowing it, into a "decade of familiarization." When your local grocer checks out your purchases using an optical scanner attached to his cash register, when your plumber sends you a reminder typed out by a word processor, or your 14-year-old son wants to study his history lesson on your television screen, you will have every reason to believe that the computerization of society has come to pass.

Is all this an engineer's dream--the obsession of a technocrat whose mind is dominated by the advances made by the Americans and Japanese--or is it really the future knocking at our door?

Productivist Approach

"The data processing revolution is coming at the worst moment," says Alain Minc, a man who cannot possibly be classed among the scorners of the "ravages of progress." To the extent that it is in fact a productivist approach, it is encountering resistance that is all the more lively since the general growth of the economy is unable to offset its effects on purchasing power or jobs.

Let us add that in the big firms, data processing equipment (often confined until now to design departments, production control, or management services, and therefore in the hands of people used to operating the machines) is now going to penetrate commercial departments, marketing, purchasing, and administrative departments, where the personnel is still unfamiliar with the rational and organized processing of information. Whence the "Minc theorem," which states that "the rate of propagation of data processing will be slower to the extent that the universe concerned is not in the habit of reasoning in terms of productivity." In short, the automation of production processes would be easier to accept than the "office of the future." The figures show this clearly: the market for automatic industrial devices (now being invaded by digital technologies) is booming, while the number of firms equipped with word processing machines (9,000) or telecopiers (3,500) remains minimal--and for the moment relatively stagnant.

It will be argued that until now equipment prices have not been competitive, but that thanks to the efforts made by manufacturers and government authorities, they soon will be. That is true. But the fact remains that the price factor (or performance-to-cost ratio) is still the basic obstacle to the computerization of society.

The day will soon come, however, when the microprocessing revolution and continued mass production will bring the lower range of computer within reach of the florist, the hairdresser, and the senior executive. This is true as regards the object itself, but only on condition that the user is something of a "do-it-yourselfer." A "naked" computer is in fact like an automobile with no gasoline in its tank. Without programs (that is, software), the equipment is not good for anything. And that is where the shoe pinches. Xavier Dalloz of the DIELI notes, "I know several doctors who acquired a computer but did not use it. When they realized that they would have to pay an engineer 2,000 francs a day for 3 months to set up a program to maintain their patient files, they balked at the expense."

The cost of the software estimates quoted by consulting firms to the PMI [small and medium-size industry] may range from an amount equal to the cost of the hardware to five times as much. At a minimum, software represents from 1.5 to 2 times the cost of the equipment, and it shows an irreversible upward trend. In these conditions, it is understandable that more than one small firm should hesitate to take the step and that the home computer, despite its low cost (a few thousand francs), should remain a pastime for programming enthusiasts rather than a combination filing clerk, budget manager, and private tutor for personal use. Jean Krautter (in charge of data processing and automation for Peugeot), says, "Believe me, when I get home from work, I don't feel like playing with BASIC!"

The real battle of computerization will be won, therefore, in the area of software. And it must be noted that languages and programs have been progressing at a snail's pace, while hardware has been taking giant steps. How can the "gray matter" be simplified to make its cost acceptable to the user?

There seem to be two choices, and both are now being explored. The first consists of replacing custom programs with packaged programs--that is, designing and then disseminating standard programs. The second consists of incorporating a maximum of software into the equipment itself--that is, selling what are called dedicated machines, capable of performing a limited number of tasks.

Jean-Pierre Baron, director of CEGOS [General Commission on Scientific Organization], says, "In France, no one wants to build standard programs. Even IBM failed there. The other manufacturers will hardly touch it. For their

Firms Are Almost Completely Won Over
(Degree of computerization of the main functions in business)

	(in percentages)	
	in 1980	in 1985
Accounting, personnel management	67	92
Production control	37	71
Marketing	30	58
After-sale service	32	53
Distribution	47	76
Purchasing	34	67
Research and development	24	48
Reports, filing	11	41
Clerical work	13	52

Source: Sample survey of Business Institute members.

Reports, clerical work, and production seem (according to this sampling of big firms) to be the three functions in which data processing--still lagging behind in those areas--will experience the most growth in coming years.

Still a Long Way To Go
(Percentage having computers)

Households	0.01
Lycees (classrooms)	0.2
Liberal professions	0.4
Communes	1.2
Firms with fewer than 10 employees	1.4
Firms with from 10 to 199 employees	23.0
Firms with from 200 to 999 employees	72.5
Firms with more than 1,000 employees	89.2

Source: DIELI, Data Processing Mission, Remy Genton Institute.

While business firms are becoming computerized, the general public, educators, and the liberal professions have not taken the plunge.

part, the software firms tend to design theoretical programs that are poorly adapted to the specific needs of the firms. We can add that the user scarcely encourages them. In the PME in particular, every individual--and especially the CPA--has his little habits that he does not want to give up, even though he is repeatedly told that the "castrating" data processing of yesterday has been replaced by a "liberating" data processing adapted to individual organization and habits.

So what is to be done? Let us recognize to begin with that that last statement is pure myth. Data processing inevitably modifies a firm's organization. And by definition, standard programs do not fit as well as custom programs. Their indispensable development will probably require that users form organizations able to come up with standard programs corresponding to the specific needs of their own profession. Few doctors can afford a program for handling their patient files, but the Order of Physicians seems to be in a good position to oversee the designing and then the dissemination of an acceptable and reasonably priced product. Financial assistance to professions desirous of thus participating in the computerization of their sector is in fact among the priorities of the ADI, which has already signed fruitful agreements with the general insurance agents, the public surveyors, the notaries, travel agencies, and hotel owners.

In addition to its positive effect on costs, that sector-by-sector approach will help to determine the needs more precisely. Like a good number of new technologies, data processing has presented systems before the potential user has expressed any need for them. One example, according to all recent observations, is the fact that the chief function of home computers is--and will remain--that of gameplaying. And if that is true, why should anyone buy an Apple II that must be programmed when "dedicated" microcomputers--that is, with games programmable in advance--are appearing in all the department stores?

Consultant Laurent de Vilmorin says, "In data processing, there is much emphasis on techniques, but the needs met by computers are apt to be ignored. The utility of data processing needs to be specified more clearly." This leads de Vilmorin to distinguish between 14 kinds of data processing (see the table [not included]), each of them corresponding to a specific professional or household function.

It is only by that type of analytical approach to needs, and not by fantastic sales pitches, that potential users will really be convinced. And it is only then that the gamble of computerizing society will pay off.

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ARRIVAL OF COMPUTERIZED OFFICES SLOWED BY DIFFICULTIES

Paris L'EXPANSION in French 19 Sep 80 pp 166-170

[Article by Claude Barjonet: "The 'Office of the Future' Is Not for Tomorrow--The Machines Are Here but the Employees Are Reluctant"]

[Text] Piles of reviews accumulating at the top of a closet, masses of paper stuffed into overflowing baskets, documents spread out in stacks in all corners: a vision of a suffocated office, buried in notes, photocopies, letters and reports of all kinds.... An ordinary sight, you say. Of course, but we are at Rocquencourt, in the former offices of SHAPE [Supreme Heaquarters Allied Powers], now occupied by IRIA [Institute for Research on Data Processing and Automation]. And the occupant of this chaotic office is Najah Naffah. Profession: engineer. Occupation: directs the "Kayak" project launched by the minister of industry to develop the "office of the future"!

If we believe the office machine salesmen, the electronics wave, rechristened the "office automation" wave for the occasion, is ready to inundate the services sector. Judging from the way Najah Naffah works, it will not happen tomorrow. The minicomputer enthroned by the window has not freed the researcher from paper, far from it. As for the portable terminal, which he never leaves, it of course enables him to communicate--wherever he may be and without the assistance of a secretary--with his colleagues at Harvard or MIT; but the exchange always takes the form of a printout...as would an ordinary telex.

Contradiction: They promise us grandiosely that the goddess of office automation is going to remake society and deliver us from piles of paperwork: but what in fact to the word processing and other telecopier machines produce? Paper. However, more and more businesses are using this equipment. They must have a reason for it, even if the electron has not yet displaced Gutenberg.

Let us visit the plush offices of a Paris head-hunter, a recent convert to office automation. A small, very small business. "Our office employs five people, he says, "two managers, including myself, two secretaries, and...a word processing machine." This latter employee--a Burroughs delivered last March--performs three different tasks.

Reports on each candidate, first of all. "As we save an enormous amount of time with each text modification," notes the office manager, "we no longer hesitate to rewrite a page. This has a considerable effect on our image."

Next, mailings. "Previously, we made photocopies of our form letter and we added the name and the address on the typewriter. The recipients noticed the different shade of type and replied: 'We acknowledge receipt of your form letter.' This had a terrible effect."

Finally, the machine handles the data on business managers, the office's real pool of candidates. "Suppose that we are looking for a 40-year-old marketing director specializing in consumer products with a degree from a certain school," explained the head-hunter. "We enter the criteria on the keyboard, and the screen prints out the files of interest."

This last application--which is closer to data processing than to office automation--is marginal: it only uses 10 percent of machine time, compared to more than half for correspondence and reports. "In fact," estimates the purchaser, "this multiplies our sales efficiency. Our files remain up-to-date with no effort. But, this is an increase in performance which we are not able to measure."

Let us content ourselves then, in estimating the profitability of this operation, with the brief calculation that salesmen (in order to attract the customer) and buyers (in order to justify the expense) are likely to use. Our head-hunter has invested 100,000 francs--training of the two secretaries included--and intends to depreciate the machine in two years maximum. Why so quickly? "Because we did not have to hire a third secretary."

The Beaux Voyages travel agency on Rue Saint-Honore has succumbed to the charms of the same argument. Wedged in a hallway next to a telex machine, the TTX 80 purchased a year ago from CII-Honeywell-Bull eliminated a job position. Sonia, the operator of the machine, uses the keyboard with dexterity and changes around the paragraphs of a United States trip itinerary with the flick of a hand. But, speed in text processing and savings in personnel are not the only attractions of the machine. It has other applications, particularly in business management: you can go from an office machine to a computer simply by changing the disc on the TTX 80. After all, these various types of equipment are always based on a microprocessor.

At GMF (Groupe Maison familiale), we proceed to a completely different level. Handling the data for a company with more than 3,500 employees requires more than a simple "maid of all work". Even more so, since this builder of homes has regionalized their sales force and has an entire printing plant. GMF, which does, of course, have a data processing division, directs its activities in three areas: liaison between the headquarters at Cambrai and the 23 regional offices, the needs of the printing plant, and the word processing requirements.

The "telematic operation" is run by Jean Beguin, the manager of the data processing division. "We want to decentralize certain files," he explains, "to regionalize the rates, for example. We are therefore going to connect all the offices to the central computer at the beginning of next year. Eventually, we will have installed about 100 terminals all over France."

The office automation itself is handled by his assistant Michel Combriat. "We have established two pools of about a dozen people each," he explains. "The central pool specializes in word processing because they are the ones who work for the printing plant." They have four single keyboard machines, but things are going to change soon: GMF is preparing to interconnect the office automation and the telematic services with the central computer. "That should not be too difficult," notes Michel Combriat. "We are basically faithful to IBM. Therefore the equipment is compatible. And since we are leasing it, we can change it as our supplier comes out with new models."

More Often the Small and Middle-Sized Businesses than the Large Ones

In the same manner as the head-hunter, the travel agent and the builder-developer, 13,280 French establishments have invested to-date in word processing equipment. The Remy Genton Institute which specializes in this type of statistic, estimates the number of machines in service at 19,000 units as compared to 2,000 in 1971. "This figure is ridiculous when compared to what has been developed," comments Remy Genton. "It reminds one of the story of the electric typewriter. IBM brought out the first in 1933; in the 1960's, manufacturers thought that all the machines in use would be electric by 1975. Today, in fact, we still count 850,000 manual typewriters in France, or 42.5 percent of those in use.

Who are the potential purchasers of automated office equipment? "At the most, 150,000 out of 600,000 French companies," replies Remy Genton. First of all, the "go-getters", the ones who are exposed to competition and who wager on modern technology to accept the challenge and to lower their general expenses." However, this group only forms a nucleus of 40,000 establishments. The others are adopting a wait-and-see attitude.

A survey made last year by Cegos makes the picture clearer: half of the word processing machines in use are found in small and middle-sized companies with 50 to 500 employees. Aren't the large companies interested? "Actually, not," comments Bernard Bied, a salesman with SMH Adrex, an importer of Canadian machines. "Take the banks and the insurance companies. They are carrying enormous overhead. Logically, they should be our top customers. But they are spending most of their time doing feasibility studies on the feasibility of doing a purchase study. Or else they spend four years on the subject, and when they finally make a decision, the equipment is obsolete. Then they have to start all over again."

Credit Agricole did go through with the project. Cited by the profession as the leader in office automation in banking, they have almost created a "school" for introduction of the equipment. And articles relating their experience proliferated. But, what was the experience in fact? The national bank (25,000 agents) has 17 word processing machines, 7 of which have screens. And the regional banks (58,000 agents) have 111, only 8 of which have screens. Some lawyers' offices are better equipped!

In other businesses, office automation is entering through the back door, starting with one department, for example. It is not necessarily a success. "Nine thousand establishments have tried word processing and abandoned it shortly afterwards," states Remy Genton. And again, this statistic does not include unused equipment which is being kept "just in case". This is the circumstance at Le Secours insurance company. The sales department bought a word processing machine three years ago. But their needs were not well-defined at the outset; thus, it functions at long intervals for small jobs.

The sales department at La Preservatrice seemed to do better. "We decided on the equpment in January 1978," relates Alain Maignan, the head of the department. "Our 703 agents were overrun with memos updating rates, and the 12,000 photocopies that the department made per year often ended up in the waste basket. Since the arrival of word processing, our usage has dropped to 1,200 photocopies."

Yellow Screen vs Green Screen

The initial investment (120,000 francs) was made from the department's budget, as was the purchase of a second machine this year. But has the experience caused the idea to spread within the company? "Yes and no," replies a slightly disappointed Alain Maignan. "The other departments come to see it, inform themselves, take an interest. But they have a very cautious attitude and none of them are investing in it at present."

How do we explain, then, the craze for word processing in the small and middle-sized companies, and the reticence it is encountering in the large companies? "When the head of a small company makes a decision, he is completely in charge," explains a manufacturer. "His choice is generally a single terminal machine, in other words one that is autonomous. Only one or more secretaries work with it, but they continue as in the past to distribute the mail or to answer the phone. Their work will not be greatly changed."

Past a certain size, on the other hand, the company generally prefers to create a typing pool, in order, they think, to get the maximum efficiency from their purchase. (A solution of great benefit to a manufacturer like IBM who makes most of its profit on the sale of central units. However, without a pool, there is no need for a large central unit...) But centralization is running into numerous obstacles. A study made by Cereq has shown, for example, that creation of a typing pool leads to the disappearance of private secretaries. They profit from the occasion to put them, too, into a pool...which annoys the executives and the secretaries--they lose some of their freedom. As for the typists, working eight hours per day in front of a screen gives them no rest at all. According to a survey made by the CFDT [French Democratic Labor Confederation] at Renault in Rueil, 69 percent of the operators had irritated eyes, and 75 percent were more tired at the end of the day.

The manufacturers react differently to these biotechnological problems. At CII-Honeywell-Bull's Angers plant, a safety engineer sumbitted the conclusions of a study on display screens to management on 7 June 1978. The unions, who were asking for communication of the file, met with a refusal because CII-HB "is implicated as a manufacturer of terminals with screens, and the customers are awaiting its position as a manufacturer!"

How then can the equipment with the best chance of being accepted be selected? A bank in Nancy, part of the CIC group, found an original method. Three manufacturers were in final competition in the bidding for 350 bank terminals. A decision had to be made among them. The bank installed the three systems in the same place--concealing the trademarks on the equipment--and had 300 future users come in during a period of two weeks. The Swedish firm Data-Saab received the contract: their yellow screen was better tolerated than the standard green one.

A Union Which Is Feared

Suppose these all too human difficulties are settled. Another one arises immediately: in a large company how do you unite data processing and office automation? "To the extent that interconnection of this equipment was not foreseen, this is hardly going well," comments an expert. "Even if it had been, the task is difficult. Eighty percent of the computer scientists do not want to hear anything about office automation for fear that part of their work will be taken from them. And if it is imposed on them, then they manage to direct the project themselves in order to retain a little power." This point is crucial because it affects employment. In a large volume prepared for the data processing commission, a team from the university at Dauphine wrote: "Considering market forecasts, elimination of positions could affect 82,000 jobs between now and 1985."

And further, only clerical positions are included in this forecast. But office automation also affects salaried staff. The latter represent, for example, 70 percent of the salary costs for insurance companies. "Middle management is on the witness stand," thinks Jean Lapeyre of the CFDT [French Democratic Labor Confederation]. Which is the reason for the union's struggle to negotiate formulas reconciling employment and productivity.

Meanwhile, the manufacturers display infinite imagination in selling their equipment. SMH Adrex approaches small and middle-sized companies by speaking to them about the clerical workers. Presumably an easy market. But it takes a lot of time to convince a customer. So, the salesman often lets consultants do the work in his place...content to wait for the invitation to bid.

In Search of the Pilot Group

But then, how do the consultants and the other service companies and computer specialists persuade the potential purchaser? It is only a matter of finding the argument which will stand up. Listen to Louis Nauges, coiner of the term "bureautique" [office automation]. "The most difficult situation is that of the company with a small growth rate. The manager will say to me: 'Your equipment interests me, but if it causes me to lay off employees, I'll never get them to accept it.' Then I look for the hidden potential of the company, as in the case of Credit Agricole which in five years became the number two travel agency." And, he adds enthusiastically: "Finally, I give the company a new dynamism!"

IBM came to word processing from the top end of the spectrum. Although they are seeking to make up their delay at the lower end of the product range, they propose complex, expensive solutions primarily, which only interest large groups. But their salemen compensate for this handicap by a well broken-in approach. "When we arrive at a company, we begin by selecting a pilot department," relates George Mattei, in charge of word processing training at IBM. "The department should be independent, but not too independent; its personnel should be ready for change; the atmosphere must be free of 'latent frustration or conflict'." And, George Mattei specifies, "The pilot group must receive even more attention because it is there that the change will be the most radical." In short, IBM plays all its trumps, since the entire sale depends on the "guinea pig".

"Office automation" for the services sector, as we can see, is only in its early stages. Conceiving, manufacturing and selling superb machines is still nothing; they still--and this is the hardest part--have to get the public to accept them. Louis Nauges, who has succeeded in convincing his secretary to install a terminal, speaks plainly: "Office automation is a man's business."

Translation: a marketing concept sufficiently vague that everyone can make use of it; a boon for manufacturers, social psychologists, and organizers of all kinds...each one claiming the ability to speak for the users. The center for increased productivity in the insurance industry understood it, when they wrote: "The real stake in office automation resides, perhaps, in the participation of the users in the studies." Why "perhaps"?

The Boundaries Are Difficult to Trace

"Bureautique", "burotique", office automation, office of the future...the neologism are definitely flourishing. But what exactly does this mysterious phraseology cover? "It's very simple, everything that concerns office organization," we often hear. A rather broad definition since it randomly includes telephones, stencils, computers and...green plants. "Alright, then, someone who can operate a drink machine is involved in office automation without even knowing it?" ironically remarks an importer of very efficient equipment. "Office automation is definitely a 'Spanish inn'", he laments, ready to defend tooth and nail an elitist definition of this much compromised term.

What, then, is office automation in the narrow sense of the term? "It is the group of electronic technologies for the acquisition, processing, storing, distribution, and destruction of information which takes the form of letters, figures, images or words," feels an insurance agent. Yes, but then this includes data processing. "Of course," replies another insurance agent. "The boundaries between office automation, data processing and telecommunication mean nothing. We must speak only of information processing." In short, what Northern Telecom, the Canadian telephone giant, calls, in very Quebecois terminology, "the advent of a numerically intelligent universe".

"Too vague!", they reply at Sema. "Office automation involves information not handled by computer, but which can be processed numerically due to progress in telecommunications and mini-computers." But what, then, is the field of application for this computer which is not one at all by virtue of being one? "Easy!", says a banker. "Office automation begins where data processing ends, and ends where hallway noise begins!"

What, in fact, does Louis Nauges, coiner of the term, think? For him it could not be simpler. "Office automation is a trademark, and no company can use this term in its name without my permission..."

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SWEDEN

LM ERICSSCN DEVELOPS NEW TELECOMMUNICATIONS TECHNOLOGY

Stockholm SVENSKA DAGBLADET in Swedish 23 Sep 80 p 28

[Article by Johan Myrsten]

[Text] The LM Ericsson firm is preparing for important shifts in its activities. Among other things the firm is planning to break into the enormous future market of "paperless offices" with the help of new electronic subscriber exchanges and telephones. This would reduce dependence on the current best sellers, the computerized AXE telephone stations.

At some time between 1990 and the year 2000 the new market could give LM Ericsson as much income as the traditional ones, according to firm estimates.

Two major shifts are involved:

One is from the current dominance of public customers (often national monopolies) to a larger number of private customers.

The other is from the traditional transmission of figures to communication that also includes data, text and pictures.

Basically the development will occur in two stages, one that has already begun and the other in the more long-term perspective:

1. For several years now LM Ericsson has been working on the introduction of a new electronic generation of subscriber exchanges along with the new telephones equipped with push buttons (the Diavox models).

2. Later on LM Ericsson intends to get into the new markets for the anticipated "paperless offices" using the electronic subscriber exchanges as an opening wedge. Via these exchanges figures, data, text and pictures could be transmitted at the same time and this would give LM Ericsson its chance to sell equipment outside its traditional area--sound communications.

With new computerized telex apparatus (so-called Teletex, or Eritex in the LM Ericsson version), picture transmission of such things as TV conferences, picture screen terminals and other products LM Ericsson could occupy a central position in the total communications flow of an office.

In this way LM Ericsson could start competing on the quickly-growing market for word or text processing, an area which in turn is starting to cross the line of regular administrative data processing (ADB).

Great Optimism

"We have great opportunities in the area of telecommunications. From a market point of view the picture is very good even though the competition is stiff."

These optimistic remarks were made by LM Ericsson's managing director, Bjorn Svedberg, at a recent press conference. His statements differ from LM Ericsson's traditionally modest profile. But the firm has some strong cards in its hand.

LM Ericsson has a very good position on the world market for telephone stations. With the AXE system the firm got a technical headstart and now AXE is also well-established in a number of countries. It is true that most competitors are developing new systems that are more recent but AXE will not become old-fashioned for many years, the company maintains. The reason is the system's so-called modular construction. A module can be replaced with one that is more modern without changing the entire system. The system is a "safe bet for the future" or "modulated toward the future" as they say in LM Ericsson jargon.

The growth of the world market for telecommunications is expected to continue at a rapid pace in the 1980's, with an average growth rate of 8 percent a year (see table). Growth is expected to be most rapid for "private telesystems" that include subscriber exchanges and office equipment. For this group an annual growth rate of 10 percent is predicted and this might be an underestimate according to Bjorn Svedberg.

Growth in the telecommunications market is expected to be most rapid in those parts of the world where LM Ericsson already has a strong position--Europe, the Middle East and Latin America. In the areas where the firm is represented (many countries shut out foreign companies) it has a market share of around 20 percent. On the other hand there is a tendency for purchasing countries to set financial or political conditions that LM Ericsson can't meet.

The monopoly of telecommunications authorities is starting to loosen up in several big industrial nations, especially the United States. This provides new opportunities for multinational companies like LM Ericsson.

Enormous Market

In addition to these promising "traditional" areas LM Ericsson is aiming at the private office market.

"This market will be enormous in the future, so enormous that it is unlikely LM Ericsson won't get at least a small part of it and even that would mean a lot of money," said chief engineer Lars-Olof Noren who is the Ericsson technical director's right-hand man.

"What we can do now is hook up all the existing systems and there our new subscriber exchange plays a key role.

"We can ask ourselves how far we should go. Should we deliver computers, should we compete with IBM--or should we just work on communications? We don't know yet, time will give us the answer," said Lars-Olof Noren.

It is not just the new subscriber exchanges and telephone sets that will give LM Ericsson an entrance ticket to the new office market. The new teletex terminal, Eritex 1000, will also play a vital role.

"Eritex is really a communicating desk computer. Starting with that kind of base we hope to be able to develop several computer terminals," said Lars-Olof Noren.

The availability of components is of strategic importance for both old and new LM Ericsson electronic products. Today the company imports most of what it needs. The rest comes mainly from its affiliate, Rifa, which makes semiconductor circuits that are specially adapted for various uses.

Rifa was formed to eliminate some of LM Ericsson's import needs at an investment cost of roughly 150 million kronor. Now LM Ericsson will invest even more to achieve a greater degree of self-sufficiency. Therefore 75 million kronor will be set aside each year for 3 years for research and development at a newly-formed LSI center within the parent firm. (LSI stands for Large Scale Integration, a concept referring to integrated circuits.)

"By the end of the decade it is possible that most of our components will come from within the company. It is more a question of not handing out what we know and of achieving reliable delivery than of economics. The components account for a relatively small part of our costs."

But LM Ericsson is more doubtful about manufacturing its own data storage equipment and microprocessors since there are so many of them already on the market.

Importance of AXE

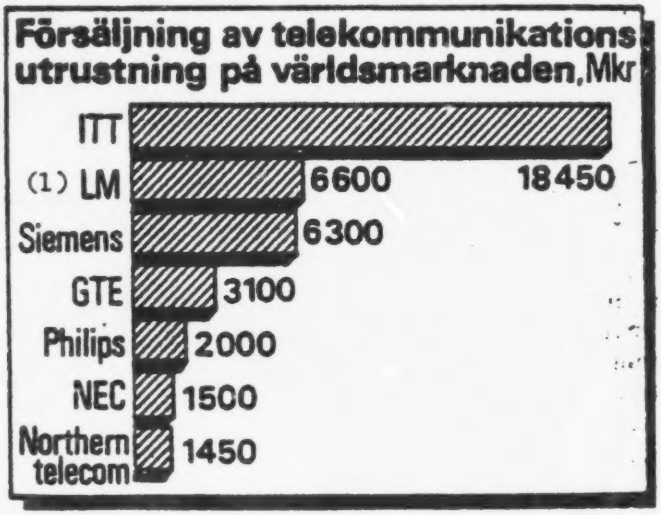
Computer technology is not just a question of machines. The so-called program goods area is increasingly important, more costly and harder to produce. In the United States they are talking about a "software crisis." In this area LM Ericsson is in a good position, largely thanks to the AXE system, according to Lars-Olof Noren.

"Program goods development and the ability to handle program costs are an essential part of AXE. We feel LM Ericsson has an advantage there compared with other companies both in the telecommunications branch and in computers. That is the other way in which AXE is very important to us."

World Market for Telecommunications (in billions of dollars)

	1977	1982	1987	Annual % growth 1977-87
Telephone stations	10.2	14.8	21.4	7.7
Transmission equipment	10.9	16.1	23.4	8.1
Terminals	3.1	4.3	5.9	6.6
Mobile radio systems	2.3	3.4	5.0	8.1
Private telecommunications systems	2.7	4.6	7.1	10.2
Other	1.2	1.9	2.5	7.6
	30.4	45.1	65.3	7.9
North America	14.2	19.2	25.9	6.2
Europe	6.2	10.0	16.1	10.1
Other industrialized lands	2.4	3.2	4.3	6.1
Middle East	3.6	6.5	10.0	10.8
Other underdeveloped lands	4.0	6.2	9.0	8.5
	30.4	45.1	65.3	7.9

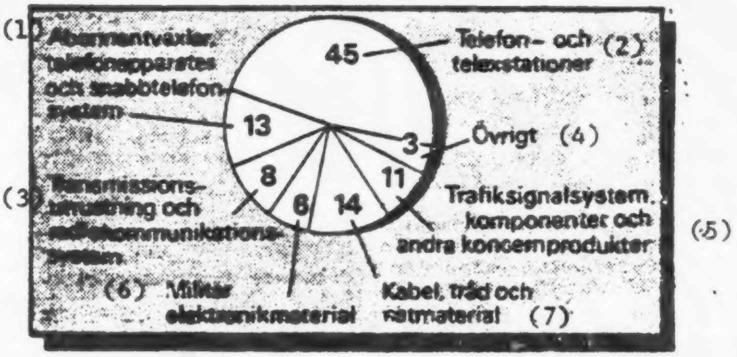
(Calculations and estimates: Laurie, Millbank & Co.)



Sales of Telecommunications Equipment on the International Market
(in millions of kronor)

Key: 1. LM Ericsson

LM Ericsson is the world's second largest exporter of telecommunications equipment. When it comes to total sales (including the domestic market) LM Ericsson ranks fifth. (Source: TELECOMMUNICATIONS, July 1980)



Billing By Product Group in Percentages

Key:
1. Subscriber exchanges, telephone sets, rapid telephone systems
2. Telephone and telex stations

[Key continued]

[Key, continued]

3. Transmission equipment and radio communications systems
4. Other
5. Traffic signal systems, components and other company products
6. Military electronics materiel
7. Cable, wire and mesh materiel

LM Ericsson sales are dominated by telephone stations.

In 1979--the firm's 104th year of activity--the LM Ericsson Telephone Share Company had total sales of 9329 million kronor, 81 percent from sales abroad. Profits before book-balancing dispositions and taxes were 786 million kronor.

6578
CSO: 5500

SWEDEN TO IMPROVE TELEX NET, NEW TELECOMMUNICATIONS SYSTEMS

Stockholm SVENSKA DAGBLADET in Swedish 23 Sep 80 p 29

[Article by Johan Myrsten]

[Excerpt] General delivery telephone service, computerized telephone answering service, reference computers, electronic blackboards, voice control instead of pushing buttons, remote dictation...

There are many new things in store for us in the computerized telecommunications network of the future.

Some of these new telecommunications inventions are still in the idea stage. But reference computers, also called the electronic empty desk, are already being tested by Folksam and will soon be tested by the ministries too.

How many will be market successes is a question for a later date. There are examples of other technical inventions which did not fare very well, including picture telephones and TV conferences.

New Telefax

Telefacsimile or telefax (the transmission of text or pictures over telephone lines) has not yet made a breakthrough in Sweden. Only 2000 sets are in use in the entire country. A second generation is being marketed this year by the Telecommunications Board in competition with private suppliers. These sets are quicker and the Telecommunications Board believes they have a greater chance of succeeding. In the future are third and fourth generations where information can be compressed and sent even more quickly with the help of computer technology.

The telex network in Sweden is being modernized. Electronic exchanges are replacing electromechanical exchanges. When this is completed, in 1981 or 1982, many new telex services will be introduced, for example card numbers, reference and automatic group writing. But a little bit later an exciting future awaits when telex can be replaced by the new textual communication form, Teletex.

Teletex 1981

Teletex will be launched in the fall of 1981, according to the Telecommunications Board. It is based on communication between computer terminals, first inside the country but later also internationally. Transmission is rapid--about 10 seconds for an A4-size page in the first generation--and the text can later be stored in the terminals for editing in the same way as word processing machines are used.

According to an agreement from last year with the Telecommunications Board suppliers of Teletex equipment for the Swedish telecommunications network will be LM Ericsson and Swedish Philips, Inc. Teletex is expected to have a key role in the development toward offices where text, number, computer and picture processing as well as communications all go together in one system and where quantities of information are exchanged under the collective name of electronic mail.

"Developments in the Teletex area are dramatic," said chief engineer J. Alex Eckerstrom, one of those responsible for future planning in the central administration of the Telecommunications Board.

"We think an important area is development of the telephone answering concept. The digital technique can eliminate many of the weaknesses of today's telephone answering services. There is a great need for intelligent service.

"If someone tries to reach another person on the job he may have one chance in three of getting through to him directly," said J. Alex Eckerstrom.

Tests have already begun of reference computers or the company's electronic empty desk. Information is assembled on a computer screen from those who cannot be reached by telephone so that the person calling up can receive the information from the telephone answering service.

Automatic location of individuals could then be the next step.

Computerized telephone answering services for small companies among others are a further development still only in the idea stage. The idea is that the person calling up can be referred to a telephone operator who with the help of a text screen could give answers, greetings, information and instructions and perform other tasks for those subscribing to the answering service.

"I am interested in communication between people and machines. This has to be a kind of dialogue with few choices to be made by the person involved, otherwise it is too difficult for the person calling up to handle the situation," said J. Alex Eckerstrom.

"In the United States there is a very sophisticated voice storage system which can come on automatically when a telephone number is busy. The stored vocal information can later be referred to by the person being called whenever it is convenient for him."

The information is not stored the way it is in a regular tape recorder, where the messages must be played in the order in which they were received. With the digital technique the person being called can go through the messages in any order he likes. A possible development would be the introduction of "general delivery telephone service," where messages received could be played back when the subscriber gives an identification number, for example from a telephone box.

Remote dictation is another technical possibility. First with a human answering service, later on (at least internally within a company) with automatic notation of messages.

Voice Control

"Voice control is an alternative to using buttons that is being studied here," said J. Alex Eckerstrom.

Such systems recognize certain distinct spoken words.

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CSO: 5500

TELETEX TO BEGIN OPERATION IN NEAR FUTURE

Stockholm SVENSKA DAGBLADET in Swedish 11 Sep 80 p 4

[Article by B. F. Hansen]

[Text] Swedish Television has given the green light for the introduction of a new mass medium in this country. It is Teletex, a transmitted supplement to TV 1 and TV 2. This decision will have consequences for manufacturers and consumers extending 12 to 15 years into the future.

The company, with Magnus Faxen as president and Lennart Sandgren as chairman of the board, thus bypassed a national report and current test projects. The Information Technology Committee will issue its final report in the spring of 1981, a report that will contain proposals on Teletex.

Education Minister Jan-Erik Wikstrom told SVENSKA DAGBLADET that he knew nothing of the decision which was made several months ago. He did not wish to comment on it but referred us to the chairman of the committee.

"We were aware of this and reacted immediately," said Sven Gustafson, the committee chairman. "But there is no reason to dramatize the matter. We regarded it as a policy statement by the company. Definite decisions cannot be made before we have issued our proposals," Sven Gustafson said.

"Teletex has come to stay," the board of directors declared. The important thing for manufacturers and consumers is that the board clearly indicated which of several existing systems will be used--the British Ceefax. With regard to tests the board said they showed Teletex works admirably. The group conducting the tests will therefore be expanded and continue as a new permanent branch of activity within the company.

Great Enthusiasm

This is important news for the individual consumer who is considering the replacement of a receiver now or in the near future. Many have speculated over what would be television's next big step after the introduction of color. The company's decision indicates it might be Teletex.

In the tests being conducted 160 specially selected deaf and hearing-impaired people are acting as a test panel. They receive about 3 hours of textual programming a week and also get about 100 pages of news and other information. But in reality the potential public is much larger than this. In this country there are already about 15,000 new receivers equipped for Teletex and according to a forecast repeated by Swedish Television in a statement it is expected this figure will rise to 20-25,000 by the end of this year.

The board's position can be summarized like this:

Teletex supplements regular TV and is therefore a natural part of the activities of Swedish Television.

Sweden will continue with the present English system for at least one receiver generation (12-15 years).

An improvement in the system should not affect the possibilities of using receivers already in existence.

The working group with Ake Holmberg as project leader is very enthusiastic. In the near future the group will grow from 6 to 8 people. Three people will work on program texts and an equal number will produce the 100 pages of news and information. During the test which is being conducted in cooperation with the National Association for the Deaf amd Hearing Assistance it was possible to discover new ways to make the programs available to those with hearing handicaps.

Exciting

The general public can receive Teletex when TV 1 and TV 2 are transmitting. Using a box equipped with buttons one can order the text of a program or interrupt the broadcast to receive some of the 100 pages of news.

"Next to direct broadcasts, Teletex is the quickest news medium," Ake Holmberg said.

Technically Teletex involves utilizing empty space on the two TV channels. This space is far from being fully utilized at present.

"The technique allows us to do 800 pages. Theoretically we could do even more than that but we don't have the resources for it yet," said editor Bjorn Grundel.

Today Teletex offers news, sports, weather, a guide to TV programs and announcements, a light page with puzzles, tables and sports results, instructions on Teletex, etc. There is also a clock page the viewer can incorporate into regular programs when he needs to keep track of the time.

"This is an exclusive and exciting medium for everyone," said Ake Holmberg. "This is just the beginning. We won't be a regular service before we have the resources to provide a news program we can be proud of."

The cost of Teletex equipment is presently around 1000 kronor in addition to the cost of a regular TV set.

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CSO: 5500

GOVERNMENT TO BEGIN TESTING LOCAL TELEVISION SYSTEM

Stockholm DAGENS NYHETER in Swedish 24 Sep 80 p 14

[Article by Gunnilla Tengvall]

[Text] After local radio comes local TV. The first week in November trial broadcasts will begin in Huddinge outside Stockholm. Saron Church may also start its own broadcasts then in Annedal, Goteborg. Plans for local TV in Navestad outside Norrkoping were dropped after a majority of tenant association members in the area voted against the idea.

"Just now the biggest problem is how to adjust the TV sets," said Madeleine Berg who is administrator, technician and instructor for the project in Huddinge.

"All TV sets are different. Two separate adjustments must be made to receive the middle band, Channel 6, where the program will be transmitted. Some sets have small controls that have to be moved, some have dials and others have buttons that must be pushed."

A week before the broadcasts begin Huddinge residents will receive instructions on how to receive the program on their TV sets. The town of Huddinge is paying for the whole thing, at least up until 15 December. Later on funding is less certain. The Immigration Agency has refused to contribute money. But that decision has been appealed.

Immigrants

Many of the programs will be aimed at immigrants who make up 40 percent of the Huddinge population. Half are from Finland. For this reason the Finnish Society has shown great interest in preparing programs as have the Turkish and Kurdish associations and the Immigrant Women's Society.

The Liberal and Center parties and VPK [Left Party Communists] would also like to send programs. So would the local sports club and of course the Swedish Church and the Pentecostal Church.

Forty percent of local radio broadcasts come from religious bodies. And the churches are also very interested in local TV. The TV studio in Huddinge is located on the premises of Flemingsberg Church.

Cost

The broadcasts will reach the immigrants in West Flemingsberg and patients at Huddinge Hospital. With the town paying for all starting costs those preparing programs only have to pay the cost of taping the shows.

But how much will it cost in all? Olle Palmborg of the Local Radio Committee had this to say:

"Setting up the broadcast network cost almost 100,000 kronor in Huddinge. Usually some local groups can come up with this kind of money; in this case it was the church. One can find used video equipment for 15-20,000 kronor. Then the local groups must get instruction on how to take care of the equipment. In Huddinge Madeleine Berg is in charge of that. The local clubs prepare the programs on a voluntary basis."

Saron Church

In Goteborg the Saron congregation (Baptists) may back local TV tests. That is if the congregation agrees to get things going. They have sent local radio programs in Annedal in the past but there is some hesitation about sending TV programs.

"Some of the members of the congregation are afraid local TV will make people too passive," said Sven Forshamn of the Saron congregation. "We have to make a decision within 2 weeks at the latest."

The Baptists have members with professional broadcasting experience. They could also contribute material from their own firms which means the programs could be produced very cheaply. Nonreligious groups could also send programs if they pay for their share of the expenses.

Norrkoping

Immigrant groups in the Norrkoping suburb of Navestad were interested in local TV. Like Huddinge, Navestad has a 40 percent immigrant population. Tenant associations were also going to pay part of the cost. But in a survey a majority of the members rejected local TV and the associations withdrew their support.

The state will not fund local TV or local radio broadcasts. But it does fund the Local Radio Committee which sets broadcast times. The committee will also evaluate local radio and TV. It will release its first report on local radio in February.

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BRIEFS

TELETEX: 'POLITICAL QUESTION'--It is a political question when, if and how TV sets will become computer data screens. After that the Telecommunications Board will run tests for a year and a half on teledata--which also used to be called data-TV and datavision. Some 20 firms, including SVENSKA DAGBLADET and five other daily papers, will take part in the tests. At present private individuals are excluded for legal reasons. "We don't know who will be chosen to develop the system in the future but while we wait for a decision we felt the Telecommunications Board had an obligation to allow certain groups to try out the technology," said Bo Adolfsson of the board. "For example it has been found that input is much harder than we had expected and requires a lot of thought and work." The Information Technology Committee is looking into possible organization forms, copyright questions, etc. The committee published one report in 1979 and intends to issue its final report in the first half of 1981. "Our main task is to find general solutions regardless of technical details," said committee secretary Tomas Ohlin. Teletex is closely related to teledata. Here text and graphics are shown on a TV screen via the TV network. Tests of this are also being conducted here by Swedish Television, Inc. and Philips. [Text] [Stockholm SVENSKA DAGBLADET in Swedish 23 Sep 80 p 29] 6578

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END

JPRS 76776

7 November 1980

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 138

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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JPRS 76776

7 November 1980

WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 138

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UK REQUESTS JAPAN'S AID IN DEVELOPING TELECOMMUNICATIONS INDUSTRY

OW251159 Tokyo KYODO in English 1103 GMT 25 Oct 80

[Text] Tokyo Oct 25 KYODO--The British Government has requested Japan's technical cooperation to further develop its telecommunications industry and may ask Japan to open its bidding for contracts with the Nippon Telegraph and Telephone Public Corporation to foreign firms, Japanese industry sources said Saturday.

Jonathan Solomon, British undersecretary for industry, asked for Japan's technical cooperation in talks with the International Trade and Industry Ministry, NTT and Japanese communication machinery makers during his two-week stay which ended Saturday.

Adam Butler, industry minister in charge of telecommunications, will visit Japan next February to discuss concrete plans for the cooperation. Butler may also demand that Japan permit foreign bids for contracts with NTT, according to the industry circles.

Japan and the United States are currently negotiating the telecommunications equipment procurement issue.

The British Government plans to permit foreign bids for contracts in the country's telecommunications business to end the state monopoly on condition that British makers would not be damaged and markets would be reciprocally opened.

There is little possibility that Britain would permit Japan, which has a closed market in the telecommunications field, to bid for British contracts.

However, Britain needs Japan's cooperation in communications technology, especially in fields such as telephone electronic switchboards and microwaves, large-sized antennae for satellite communications and computers.

Butler is expected to call on Japanese companies to take part in the British telecommunications field when he comes to Japan.

CSO: 5500

BRIEFS

ARGENTINE DELEGATION TO ITALY--Communications Secretary Eduardo Oscar Corrados left for Italy where he will head the Argentine delegation to the meeting of the international satellite telecommunications organization. [Buenos Aires Domestic Service in Spanish 2000 GMT 16 Oct 80 PY]

USSR-ITALIAN NEWS AGREEMENT--Moscow 24 Oct (TASS)--An agreement on cooperation in the sphere of exchange and circulation of information between TASS and the news agency ITALIA was signed today in Moscow. The agreement was signed by TASS director general Surgey Losev and director general of the news agency ITALIA Roberto Nobili. [Text] [LD260434 Moscow TASS in English 1224 GMT 24 Oct 80 LD]

CSO: 5500

BRIEFS

SRI LANKA-INDIA PHONE LINK--A microwave telephone link with India will become operational from next year, posts and telecommunications minister D. B. Wijetunga told a meeting in Kurunegala 20 October that once this system is installed direct dialing facilities to India will be available. [BK220601 Colombo International Service in English 1045 GMT 21 Oct 80 BK]

CSO: 5500

BRIEFS

ETHNIC TV--A new television channel aimed at different cultural groups has begun transmission in Melbourne and Sydney. The acting posts and telecommunications minister, Mr Fife, says the programs will help Australians of all cultural backgrounds to appreciate the diversity of their nation. [Text] [OW241355 Melbourne Overseas Service in English 1130 GMT 24 Oct 80 OW]

CSO: 5500

FRENCH FIRM TO INSTALL SATELLITE EARTH STATION

Dacca THE BANGLADESH TIMES in English 29 Aug 80 pp 1, 8

[Text] An agreement has been signed on Thursday between Bangladesh Telegraph and Telephone Board and GIE Telspace of France for setting up of an Intelsat standard 'B' earth station near Kaliakoir, about 26 miles from the city, according to Press release.

The earth station will establish direct telecommunication links with a number of neighbouring countries, like Nepal and Burma and will also serve as a stand-by to the existing Betbunia Satellite Earth Station.

Initially, the station will provide up to 24 telephone-type channels and also colour, black and white TV transmission and reception facilities. It will be possible to expand the station capacity to 60 telephone-type channels in future.

The total cost of the project is about Tk 10 crore, of which more than Tk 5 crore is in foreign exchange, which has been made available under French Technical Assistance.

The station is expected to be complete by April '81.

CSO: 5500

SATELLITE COMPLETES 100 DAYS ORBIT

Systems Functioning

BK250918 Delhi Domestic Service in English 0830 GMT 25 Oct 80

[Text] Indian satellite Rohini put into a near-earth orbit on 18 July from Sriharikota Space Center today completed 100 days in space. Director of the Vikram Sarabhai Space Center told UNITED PRESS OF INDIA that all systems on board are functioning perfectly and the Rohini is sending powerful signals. The satellite planned to last only 3 months is now expected to remain in orbit for 1 and 1/2 years.

Next Satellite Launch 1981

BK260938 Delhi Domestic Service in English 0240 GMT 26 Oct 80

[Text] The next Rohini satellite is to be launched from the SLV-3 early next year. Disclosing this to UNITED NEWS OF INDIA Prof U.R. Rao, the director of the Indian Space Research Organization Satellite Center, Bangalore, said that it will contain a camera system for measuring landmarks. Prof Rao said that the Earth observation satellite Bhaskara is working well after being launched in June last year.

The director of the Vikram Sarabhai Space Center, Dr Vasant Gowrikar, told newsmen in Pune that the country will be able to launch its own communications satellite in geostationary orbit in the next 10 years.

News Pool Satellite Link

BK241115 Delhi General Overseas Service in English 1000 GMT 24 Oct 80

[TExt] The nonaligned news pool will have around the clock link with a satellite to feed news agencies of the member countries. Stating this to newsmen in New Delhi, Information and Broadcasting Minister Vasant Sathe has said that plans to strengthen the news pool were also discussed during his recent visit to Paris. Sathe also said that the film and television institutte in Pune will be made a regional center of UNESCO and its functions and capacity to train students will be upgraded. He said the suggestion to upgrade the institute was made at the UNESCO conference at Belgrade.

CSO: 5500

BRIEFS

CIRCULAR PROTECTING COMMUNICATION--The Xinjiang Regional People's Government recently issued to all localities and all departments concerned a circular on protecting the safety of communications lines. The circular gives specific regulations concerning the protection of communications equipment, including overhead communication lines and underground communication cables. The circular also emphatically points out that those who cause accidents by violating regulations will be investigated and assigned responsibility in accordance with the seriousness of the accidents and asked to pay for the economic losses and that those who deliberately sabotage communications lines or disrupt communications will be strictly dealt with in accordance with the relevant articles of the criminal law of China. [Text] [OW240515 Urumqi Xinjiang Regional Service in Mandarin 1620 GMT 23 Oct 80]

CSO: 5500

THAILAND

BRIEFS

EXPANSION OF TELEPHONE NETWORK--Major General Wasutphan Thawiwong, the head of the Telephone Organization of Thailand, has disclosed that the Telephone Organization is planning to borrow an additional 7 billion baht from the World Bank in order to build additional projects as extensions of the 1977-1984 development projects. At present, this project is being considered by the National Economic and Social Development Board. This expansion project consists of installing approximately 290,000 more telephones in Bangkok and in the various regions. After the project has been considered by the National Economic and Social Development Board, officials of the World Bank will come to carefully inspect the plans for the final time in order to discuss guaranteeing the project. It will then be presented to the cabinet for consideration. The head of the Telephone Organization of Thailand stated that the amount of money to be borrowed from the World Bank may change because it must first be determined how much financial support the state can provide. The rest will be borrowed. As for automatic long-distance telephone service, the head of the Telephone Organization stated that, next month, this service will be opened between the capital and all parts of the southern region from Ratchaburi on south. After that, automatic long-distance service will be opened to Aranyaprathet, which is the final point. Following this, service sill be opened so that each of the regions can contact each other. [Text] [Bangkok BAN MUANG in Thai 16 Sep 80 p 16] 11943

TELEPHONE SERVICE TO SOUTH--Mr Phairot Chupravat, the head of the Thung Song Region 7 Telephone Division, Telephone Organization, Administration Section, stated that beginning at 0800 hours today (the 6th), the Telephone Organization will open direct-dial telephone service in the 075 long-distance telephone area code region. But concerning the Nakhon Sithammarat, Thung Song, Pakphanang, Thasala, Trang, Kantang and Krabi Province telephone exchanges, if calls are made within the area of the above area code, the caller should dial only the 6-digit number desired. As for the service charge, the Telephone Organization has set the rate at 2 baht per 30 seconds. If the caller wishes the operator at the exchange in each province to assist in placing the call, the charge will be increased 10 baht per call during the day and 20 baht during the night, except if the caller uses the services of and pays cash at the exchange or if a public telephone is used. [Text] [Bangkok BAN MUANG in Thai 6 Sep 80 p 6] 11943

RADIO TELEPHONE REGISTRATION--Police Major General Suchat Phuaksakon, the director-general of the Posts and Telegraph Department, has stated that, at present, there can be no exceptions to registering or requesting permission to use radio telephones, whether used at home or in business. This is because this is something that is regulated in accord with the Radio Telephone Communications Act. This law has stipulated as a matter of principle that equipment that uses frequencies, regardless of whether such equipment is imported or whether it is in use in the country, must all be regulated. Thus, the Posts and Telegraph Department must regulate the use of radio telephones, or other equipment that uses radio waves, in accord with the law. The director-general of the Posts and Telegraph Department stated that even though there can be no exceptions to requesting permission to own and use radio telephones, which is a new electronic development, the Posts and Telegraph Department will allow people who own such equipment and who live in the provinces to request permission by mail so that these people do not have to make a trip to request permission at the Posts and Telegraph Department, which is located in Bangkok. Those requesting permission by mail must give their name and address and send a copy of their identification card, government official's card or state enterprise employee's card. [Text] [Bangkok SIAM RAT in Thai 9 Sep 80 p 3] 11943

NEW TV STATION--A new television station of the public relations department will soon be set up in the province of Prachuap Khiri Khan, deputy government spokesman Sombat Chantharawong reported yesterday. The project which will cost the government nine million baht was approved by cabinet during the meeting on Tuesday [14 October], said the spokesman. The construction of the station is due to be completed within one year, he said, adding that the project was aimed at enhancing the efficiency of information services and public relations. [Text] [BK210225 Bangkok NATION REVIEW in English 16 Oct 80 p 3 BK]

CSO: 5500

HOA SEN SATELLITE EARTH STATION NEARS COMPLETION

Construction Carried Out in Record Time

Hanoi LAO DONG in Vietnamese 10 Jul 80 p 3

[Article by Tran Le: "Hoa Sen [Lotus Blossom] Begins To Blossom"]

[Text] On the morning of 24 June 1980, the 23rd and final section of the antenna tower of the Hoa Sen Satellite Signal Receiving Station was properly installed by highly experienced workers of Machine Installation Enterprise Number 1 of the Ministry of Building, thus bringing the tower to its final height of 125 meters. Against the vast blue sky, the two red flags of the Soviet Union and Vietnam, reflecting their steadfast and militant friendship, fluttered from atop the tall tower, giving further proof of the close cooperation between Vietnam and the Soviet Union.

This was not the first time that these installers had constructed a project exceeding 100 meters in height. In past years, they frequently and successfully erected power line towers across wide rivers, erected sections of 260 meter towers and erected the Tam Dao television antenna at an altitutde of 1,000 meters in extremely difficult terrain. However, it can be said that they never completed a tall project in such a short amount of time.

Our Soviet friends, speaking from experience and with professional caution, said that it would take 3 or 4 years for us to complete the modern Hoa Sen project, especially in view of the fact that it is a totally new project to us. However, in the spirit of overcoming difficulties, with firm resolve, energy and confidence and relying upon our corps of machine installers, we guaranteed that we would complete the project in a very short amount of time. In the space of only 2 months, May and June 1980, we virtually completed the main projects so that the cadres and workers of the installation crew could install the sophisticated and complex mechanical structures. The installers stayed at the seaport and riverport for months on end in order to promptly unload dozens of ships carrying equipment for the Hoa Sen station.

In less than 1 month, thanks to the experience of the crane operators, they safely delivered 700 tons (including packing crates) of equipment to various places to be installed. Lacking spare parts and construction materials, they made innovations and economized, obtaining 7,000 meters of cable of various types and 11 cubic meters of railroad ties with which they buried the temporary anchor and jacks; they even made their own winches and suction grips in order to maintain the rate of installation. When the tower sections arrived and finding that they lacked "sam"(a copper-lead-aluminum alloy), the workers collected scraps of metal, which they recycled, producing 60 additional kilograms of "sam" to weld the anchor cable ends, thereby insuring the erection of the tower on schedule.

In particular, when installing the 12 meter parabolic mirror in the main project, the Vietnamese machine installers made the innovation of joining two cranes of two different functions and heights. The chief of the unit, Nguyen Thai Tan, a highly experienced machine installer, and his unit, crane unit number 1, who had the honor of receiving a boquet of flowers from President Ton Duc Thang on the occasion of the recent Nguyen Dan Tet, performed this difficult work. In the space of three and one-half hours and in front of all the Vietnamese and Soviet cadres and workers, the mirror was gradually raised into position. In the end, this "white lotus blossom" was perfectly placed on top of its 18 meter base. Comrade Valeri, the chief of the Soviet group of specialists, his face covered with perspiration, shouted a cheer of joy, embraced Tan and the other members of his unit and praised them profusely.

The completion of the erection of the 125 meter antenna tower was another astonishment to our Soviet friends. A specialist named Di-ma [Vietnamese phonetics], who has worked hard with us for many years, said to me:

"Your very rapid transportation of the 400 tons of antenna equipment under the difficult conditions posed by your roads and bridges represents a record. However, assembling this huge quantity of iron and steel in a short amount of time here in this lowlying area and lacking materials and supplies was surely an extraordinary achievement. Our Vietnamese comrades have constantly searched for every way to use what they have in order to perform their work well. I am very proud to be working with you."

The general project engineer Gri-go-ri-e-vi-tru [Vietnamese phonetics], a highly skilled engineer, happily told me that on the evening of 23 June, the comrades at the Hoa Sen station watched an entire soccer match played in Moscow. He offered the following evaluation of us: "You set two records: you set up the ground station and its antenna and performed the major jobs of the Hoa Sen project in unsurpassed time!" Another Soviet, a person with 18 years experience in the machine installation trade, told me:

"I must confess, I found it hard to believe you at first. But in only a few days, I felt great admiration for the corps of Vietnamese craftsmen. Nguyen Thai Tan, Nguyen Van Dinh, Lai Duy Sinh and the others are fully worthy of being considered the equals of the skilled machine installers of the Soviet Union."

Our friends gave us unselfish praise and, in actuality, each Soviet comrade is a model of professional skill and a professional work attitude. On Saturday afternoon they worked overtime and attended a party that night; but, early Sunday morning, all of them were back at the worksite. Some were still feeling the effect of the burning sun of the day before and some were somewhat intoxicated but, after only a few minutes rest, they were back at work.

As we were putting the last section of the 125 meter antenna tower into position the machine installers at the Giang Vo Central Television Station were installing another mirror and a wave guide on the floor of the television tower. And, at the Posts-Telegraph Center on the bank of Hoan Kiem Lake, another crew of installers was completing the work of installing another mirror on its base.

At 1909 hours on 21 June, the Hoa Sen station received a signal from the Xta-xi-e-na 5 /Vietnamese phonetics/ satellite at 53 degrees longitude east. At 0940 hours on 22 June, it received a color signal from Far East Satellite 85. At soon as this retransmission antenna is completed, once it has been tuned and once the various machines and pieces of equipment have been completely installed, Hanoi and the surrounding areas will receive television programs (or telegraphic conversations) directly from Moscow and the other capitals of the CEMA countries. Then, from the capital of the SRV, we will be able to make contact with the world so that mankind can understand us better and become closer to us. This will also provide us with the opportunity to talk with our friends in the world about our country. On 4 July, we watched a television program from Moscow. Thus, the Hoa Sen station is virtually complete. It is truly a beautiful, new expression of Vietnamese-Soviet friendship.

Station's Components Described

Hanoi QUAN DOI NHAN DAN in Vietnamese 13 Jul 80 p 2

/Article by Hoai Nam, engineer of the Posts-Telegraph General Department: "A Project of Warm Vietnamese-Soviet Friendship: the Hoa Sen Satellite Signal Earth Station"/

/Excerpts/ The satellite signal ground station called Hoa Sen, a technical and cultural project given to our party and people by the party and people of the Soviet Union, has been put into operation.

For the first time in our history, outer space has been put to use to meet the daily needs of Vietnam. Now, from a distance of 36,000 kilometers in space, the Sta-xi-o-na 5 [Vietnamese phonetics] satellite of the Inter-Sputnik International Signal System stands ready to receive video and audio signals from us for transmission to the rest of the world and, at the same time, bring to us news and images of the political and social life, the cultural and artistic activities, the scientific advances and technological innovations, the physical culture and sports movement and so forth of other countries.

Our Ground Station Is Part of the Inter-Sputnik System

The Inter-Sputnik International Satellite Signal Organization was established on 15 January 1971; now, the member countries communicate through two satellites, Sta-xi-o-na 4 and Sta-xi-o-na 5.

Sta-xi-o-na 4 serves the ground stations of the Soviet Union, the GDR, Poland, Czechoslovakia, Hungary, Bulgaria, Cuba and so forth while Sta-xi-o-na 5 serves the ground stations of the Soviet Union, Vietnam, Afghanistan, Mongolia, Algeria and so forth.

Our ground station system consists of: the main satellite receiving and transmission station and the television retransmission system, which transmits signals from the main station to the television center and the telegraph, telephone and wire-photo centers in Hanoi.

The main satellite receiving and transmission station consists of a mirror antenna system that is 12 meters in diameter and 26 meters tall and has a coefficient of efficiency of 0.5 in the transmitting mode and 0.7 in the receiving mode. The antenna's degree of amplification is 50 decibels; in addition, the receiving equipment includes minor distortion amplifiers, which are cooled by nitrogen gas, in a receiving frequency band of about 4 GHZ and a component that reduces the receiving frequency to a median frequency of 70 MHZ. The transmitter unit consists of television, telephone, teletype and other transmitters, has a frequency band of roughly 6 GHZ and includes signal tuning modules and remote controlled equipment. The final stage television equipment has three audio channels with a band width of 6 MHZ. The final stage equipment modulates and demodulates the telephone, telegraph, radio photo and other signals by frequency.

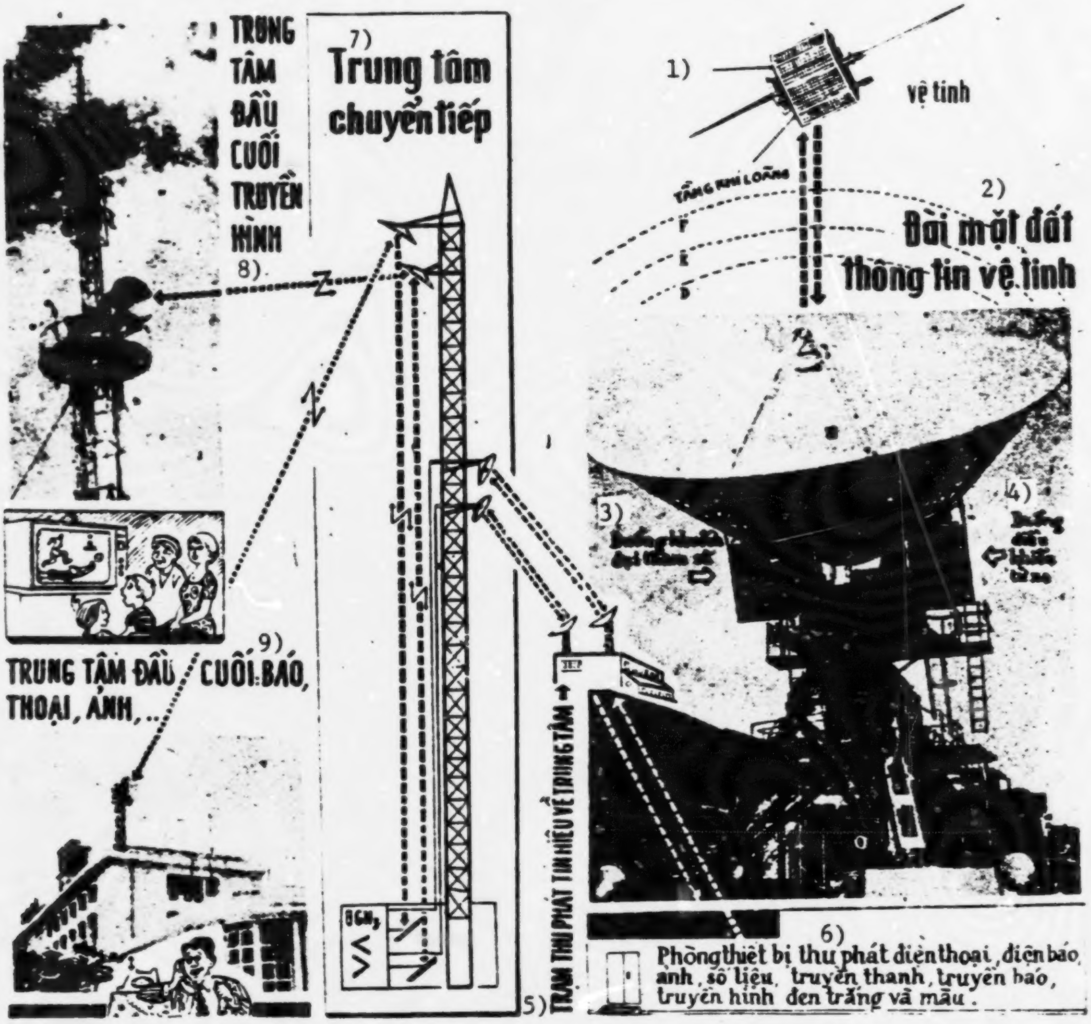
The capacity of our earth station will enable us to exchange a number of telephone, teletype, data transmission, radio, radio photo, newspaper page transmission and black and white as well as color television (receive and transmit) channels with the countries working through the Sta-xi-o-na 5 satellite in the Inter-Sputnik System. To establish communications with these countries, it is necessary to take the second leap forward. Additional telephone and teletype channels can be added to the station to meet future needs for communications between our country and others.

The radio relay system consists of television, audio, telephone, teletype, radio photo and other signals transmitted over a 8 GHZ frequency band but on two different frequencies that are separated from each other by horizontal and vertical poles or the mirrors of the parabolic antenna. Because of the long distance to the earth receiving and transmitting station, the entire line consists of four stations: one end station is located immediately adjacent to the earth receiving and transmitting station; it has an antenna that rises 114 meters above sea level and has receiving and transmitting equipment for television, audio, telephone, teletype, radio photo, etc. Next, there is an intermediary relay station at mid-distance on the line; this station has a 125 meter tower with two parabolic antennae suspended in the front, two flat, elliptical antennae together with two 45 degree reflection mirrors; within this station is receiving and transmitting relay equipment for television, audio, telephone, teletype, radio photo and other signals. Finally, there are two end stations: one station at the television center to receive and relay television and audio programs to a 51 meter antenna with corresponding equipment and one station in the teletype, telephone and radio photo center in Hanoi, which has a 39 meter antenna and the equipment to receive and relay signals to support the signal and liaison needs between our country and other countries.

Technologically, with the construction of the satellite signal earth station, we have rapidly put the modern technical advances of the world into use in the field of international communications in our country, thereby shrinking the gap in signal technology between ourselves and the fraternal countries, raising the quality of international communications and creating the conditions needed to participate in the In-te-cot-mot /Vietnamese phonetics/ program in the field of space communications; on the other hand, through the building and use of this project, we have trained our corps of cadres and workers in this new technology.

With the centralized, unified leadership of the state, the well-coordinated, thorough guidance in capital construction, guidance that focused on key aspects, provided by the ministries and sectors that participated in the project's construction, with the enthusiasm of the Soviet specialists and the Vietnamese cadres and workers and through the socialist cooperation of the various sectors involved in the project, our first satellite signal earth station was completed in a short amount of time.

This precious gift from the country of Lenin to us was given exactly on the 25th anniversary of the signing of the Vietnam and USSR Economic Treaty (18 July 1955). The gift from the Soviet people to us is not only in the form of an advanced technical project, but also in the form of the intense, enthusiastic and unselfish work spirit of the Soviet specialists; considering


TRUNG TÂM ĐẦU CUỐI TRUYỀN HÌNH
7)
Trung tâm chuyển tiếp
1)
vệ tinh
TẦNG KHÍ LOÃNG
F
E
D
2)
Đài mặt đất thông tin vệ tinh
8)
3)
4)
9)
TRUNG TÂM ĐẦU CUỐI BÁO, THOẠI, ẢNH,...
TRẠM THU PHÁT TÍN HIỆU VỀ TRUNG TÂM
5)
6)
Phòng thiết bị thu phát điện thoại, điện báo ảnh, số liệu, truyền thanh, truyền báo, truyền hình đen trắng và màu.

1. Satellite
2. Satellite Signal Earth Station
3. Parametric amplifier unit
4. Remote control unit
5. Station receiving and transmitting signals from and to centers
6. Building with receiving and transmitting equipment for telephone, teletype, radio photo, data transmission, radio, newspaper transmission and black and white as well as color television.
7. Relay center
8. Final stage television center
9. Final stage station for teletype, telephone, radio photo and so forth

our extremely difficult conditions, a beautiful image was presented by the Vietnamese and Soviet workers on the project. The image of Vietnamese-Soviet friendship, like the name of the project itself--the Hoa Sen [Lotus blossom] project--will forever be beautiful.

Soviet Aid Enables Construction

Hanoi KHOA HOC VA DOI SONG in Vietnamese 16 Jul 80 p 4

[Article by Tran Hoang Luong, the Posts-Telegraph Institute of Science and Technology: "A Flower of Friendship: the Hoa Sen Satellite Information Earth Station"]

[Text] On the day that the Soviet Union launched earth's first man-made satellite, a new era in the history of the development of man began. In particular, during the past 10 years, signal technology has taken long strides forward, strides marked by the widespread use of man-made satellites in communications.

If satellite signal technology did not exist, how could people view artistic performances and athletic competitions taking place tens of thousands of kilometers away and how could telephone conversations between parties in different countries of the world take place so rapidly and with such high quality?

At present, there are many global satellite information organizations, such as Inter-Sputnik and Intelsat, as well as regional and domestic information organizations.

In 1979, our country became the 10th member of the Inter-Sputnik Satellite Information Organization. The Soviet Union has built dozens of earth satellite signal stations in the Soviet Union and the countries of the Inter-Sputnik system.

The Soviet Union is helping us to build an earth station. The project has been carried out urgently in order to celebrate the 1980 Moscow Olympics. The Hoa Sen Earth Station is a valuable gift from the party, government and people of the Soviet Union to our people, one that helps us to carry out cultural, technical and economic development.

The Inter-Sputnik System is linked together through the Mon-nhi-a [Vietnamese phonetics] satellites, which have an ellipse shaped orbit, and the Xta-xi-o-na satellites, which are in a stationary orbit 35,800 kilometers above earth. Our Hoa Sen Station is linked to the system through the Xta-xi-o-na stationary satellite over the Indian Ocean.

The Hoa Sen Earth Station is a final-stage station in the Inter-Sputnik Satellite Information System. The system was designed to suit our tropical climate and is mobile. The latest technological achievements have been applied in the station's equipment.

The receiving-transmitting equipment, control equipment, inspection equipment and power source are placed in containers. The antenna system is positioned on a separate tower immediately beside the main technical building.

The antenna and the station operate normally at a wind velocity of 20 meters per second and can withstand a velocity of 40 meters per second as well as changes in temperature ranging from 1 degree to 45 degrees Centigrade and humidity as high as 98 percent.

The operating frequency band is 5,725 to 6,225 MHZ in the transmitting mode and 3,400 to 3,900 MHZ in the receiving mode.

The station can receive a color or black and white program and handle from 12 to 24 channels of telephone conversations; in addition, it provides for teletype and radio photo communications.

The main pieces of equipment consist of: a two mirror antenna system and an antenna turning system to track the satellite; telephone and television receiving and transmitting equipment; control, measuring and inspection systems; a water and wind cooling system and an electric power source.

The main, outer reflecting surface of the antenna is in the shape of a parabola measuring 12 meters in diameter--which is commonly called a parabolic mirror because it reflects radio waves the way a mirror reflects sunlight; there are also a small (1 meter in diameter) reflecting mirror in the shape of a hyperbola and one radiating plate in the shape of a funnel.

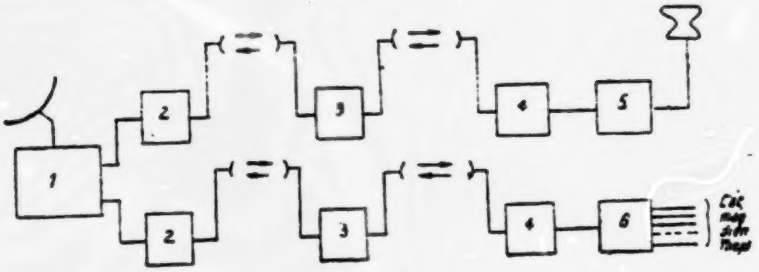
A receiving-transmitting mode selector enables the receiver and transmitter to use a common antenna. Signals being received or transmitted follow separate wave guides of the receiver and transmitter. These wave guides must be connected to the antenna through a rotating joint so that the antenna can be easily turned and not affect transmission.

The antenna can be turned on a position angle and an ascent angle by means of a precise, satellite tracking system.

Although the Hoa Sen Earth Station communicates with a stationary satellite, its tracking system has the same properties of the Obita stations; the antenna must track the Mon-nhi-a satellite, which is constantly moving through space.

The receiving and transmitting systems of the earth station, in addition to the main pieces of equipment mentioned above, also include microwave relay capabilities to transmit signals to the television, telephone and teletype centers and receive signals from them.

The equipment sections of the satellite signal system on earth (see diagram) consist of:



The earth station(1), the final-stage microwave station(2), the intermediary microwave station(3), the final stage station(4), the television center(5), the telephone center(6) and the teletype center(7).

The operational principles of the entire system are as follows:

The signal from the satellite, which consists of a video and telephone signal, is received by the parabolic antenna, passes through the channel selector module, follows the receiver wave guides to minor distortion parametric amplifiers, is amplified, converted to medium frequency and demodulated. The video and telephone signals are demodulated separately in modules placed before the parametric amplifiers.

The telephone signal, after being demodulated and filtered into separate channels, follows a coaxial cable to the channel modulator; there, it is converted into the basic frequency band and then sent to the microwave transmitter and transmitted to the intermediary relay station. From the microwave transmitter in the intermediary station, the telephone signal is transmitted to the final-stage telephone microwave station where it is separated into individual channels and transmitted to the telephone center.

The video and accompanying audio signals are also demodulated, amplified and transmitted by television microwave to the television center.

Conversely, when transmitting telephone and television signals, the signals will be transmitted by the telephone and television microwave lines to the earth station, tuned and transmitted to the telephone and television transmitters. The capacity of the telephone and television transmitters are combined and signals follow the wave guides to the parabolic antenna for transmission to the sttellite.

There will be one or many microwave relay stations depending upon whether the distance between the earth station and the television and telephone centers is short or long.

Soon, television sets in the capital (channel 6) and in the areas receiving programs from the Tam Dao Broadcasting Station on channel 2 will carry broadcasts of athletic competitions at the 1980 Moscow Olympics on a program retransmitted from the Hoa Sen Earth Station by the Central Television Station.

The areas in the South and farther away that do not have microwave relay capabilities and, as a result, cannot view this program at the same time, will have to wait and view the tapes provided by the Central Television Station. Moreover, Moscow time is 4 hours behind our time, consequently, it will not be possible to view the entire broadcast because the program will be on television during work hours or well into the night.

Since the start of the year, the Soviet specialists and the cadres and workers of the building, posts-telegraph, communications and other concerned sectors in Vietnam have overcome many difficulties, made many innovations and increased the rate of construction, completing the key projects in order to put the Hoa Sen Earth Station into use in time for the 1980 Moscow Olympics.

7809
CSO: 5500

BOARD TO PLAN COMMUNICATIONS NETWORK ESTABLISHED

Hanoi NHAN DAN in Vietnamese 19 Sep 80 p 1

[VNA News Release: "Communications Network Planning Board Established"]

[Text] On 17 September the Council of Ministers decreed the establishment of a Communications Network Planning Board to help the Council of Ministers draft plans for the communications network.

The Communications Network Planning Board is responsible for studying and presenting to the Government:

Draft plans for the national communications network, first of all concentrating on studying plans to create and deploy a posts and telecommunications network during the 1981-1985 five-year plan period.

Draft regulations regarding the relationships between the state communications network and the specialized communications networks of the ministries and sectors.

Guidelines for developing communications technology, distributing communications equipment, and distributing the necessary investment capital during the 1981-1985 five-year plan period and during the annual plan periods.

5616
CSO: 5500

BRIEFS

VINH PHU BROADCASTING CENTER--On 10 September Vinh Phu inaugurated a powerful provincial broadcasting center. In the construction process, the cadres, workers, and engineers doing the construction came forth with many innovations to improve techniques, overcame many difficulties regarding transportation, installed more than 40 tons of machinery and equipment, leveled thousands of cubic meters of earth and soil, and met technical standards in safely erecting a transmission tower and transmitter system. With that new broadcasting center, the broadcasting station of Vinh Phu Province will broadcast four daily programs on the medium-wave band. [Hanoi NHAN DAN in Vietnamese 14 Sep 80 p 1] 5616

CSO: 5500

BRIEFS

'TASS'-HUNGARY AGREEMENT--Budapest--On 15 October a new agreement was signed between TASS and MTI on further developing the multifaceted cooperation between the two agencies in the sphere of information. The agreement was signed by TASS director general S. A. Losev and MTI director general E. Lakatos. [Text] [LD230829 Moscow IZVESTIYA in Russian 17 Oct 80 Morning Edition p 5]

CSO: 5500

NDOLA, LUANSHYA TVZ PROBLEMS DETAILED

Lusaka TIMES OF ZAMBIA in English 16 Oct 80 p 5

/Text/ A radio and television expert has explained why Ndola and Luanshya are having poor television reception.

Chief service engineer for Dabhis Radio and Television Services Mr Himmat Dabhi said in Ndola yesterday that the problem was known as "co-channel interference."

"This occurs between two or more stations operating on the same channel and is more active during high sun-spot activities which Zambia is passing through with 1980-81 being the peak in an 11-year cycle," he said.

"Those with good memories will remember that this last happened in 1969," Mr Dabhi added.

In this case, Television Zambia was interfered with by Ghana, Kenya and Ibadan (Nigeria) television stations all of which transmit on channel four.

He said he had confirmed this at his workshop where he had been receiving these stations when Television Zambia went off the air. Voice of Kenya television was very clear.

To remedy this Mr Dabhi said Television Zambia transmission channel could be changed at the Kitwe station to band three or have a low power transmitter in Ndola for Ndola and Luanshya viewers.

"The unfortunate thing is that this can only be corrected from the transmission end," Mr Dabhi said.

Ndola and Luanshya were in a fringe or a weak zone and Zimbabwe television which also transmits on channel four had the same problem which has now been rectified with installation of powerful transmitters.

Overlapping images caused by the poor transmission occurred after 21 hours because of adverse electrical weather conditions which were active after that time.

There was no comment from Television Zambia yesterday. Mr Dabhi's explanation follows complaints from viewers some of whom have written letters to this paper demanding an explanation which has since not been given.

Zambia Broadcasting Services (ZBS) chief engineer, Mr Churchill Mutale, said in Lusaka yesterday, that it was possible for a country outside Zambia to interfere with transmission.

ZBS, he said, was transmitting at a low frequency and any station outside Zambia using bigger and more powerful transmitters could jam the transmission.

He said the Copperbelt was the only area using band one while Lusaka was on band three. Lusaka used to experience the same problem some time back before the change.

ZBS would change all transmitters on the Copperbelt, and these had already been bought.

CSO: 5500

TELSET TO BEGIN OPERATION ON TEST BASIS

Helsinki HELSINGIN SANOMAT in Finnish 23 Sep 80 p 21

[Article by Jyrki Iivonen: "Picture Tube Newspaper Expands Throughout Finland"]

[Text] The picture tube newspaper or TELSET is indeed becoming a supplement to the traditional means of mass communication, newspapers, radios, and television.

The publishing companies and the telephone company have already established TELSET corporations or agreed upon the commencement of test operations in Helsinki, Tampere, Lahti, and Jyvaskyla. The starting of test operations is being considered in Turku, Kotka, Vaasa, Oulu, Kuopio, Kajaani, and Joensuu.

The interest expressed by the newspaper houses in the TELSET system is primarily a result of the fact that in the future they do not want to lose their home on the traditional means of mass communicaiton.

Another incentive is that according to estimates there will be more than 100,000 TELSET viewers by the end of this decade. Then there will no longer be any doubts about the feasibility and profitability of this operation. At this time the primary subscribers to this system are enterprises.

The establishment of TELSET is relatively inexpensive compared to newspaper publication. The initial expenditure for a company equipped with an information bank are approximately 1 million markkas. ATK [not further identified] services can easily be purchased from the companies. Information is transferred to viewers along existing telephone cable.

The printing of newspapers and particularly the cost of transporting them to subscribers will become more expensive. It is doubtful that there will be corresponding rises in the cost of distributing and transferring news by cable.

TELSET's Trump Cards Are Speed and Memory

According to the Newspaper League the picture tube newspaper will not eliminate newspapers in this century, but will function as a supplement to them. TELSET's trump cards are the speed at which information can be transferred and a nearly unlimited memory. On the other hand, newspapers are easier to carry and can be read anywhere at one's own convenience.

The TELSET Companies will not function as producers of information, but will maintain the computer network necessary for the transfer of information. The company, for its part, will rent information space for producers of information, which in turn can transmit information for general or private use for a fee.

The viewer needs a receiver or a color television to which TELSET equipment has been attached. The cost of a receiver fluctuates from 5,000 to 7,000 markkas. In addition to this, the viewer must rent a supplementary unit, by which the telephone is connected to the receiver.

Helsinki's TELSET Has Begun Operations

The TELSET system became a permanent arrangement last spring when the Helsinki Telephone Company, the Nokia Company, and the Sanoma Corporation established the Helsinki TELSET Company after a couple years of testing.

The Tampere Kirjapaino Publishing House and the Tampere Telephone Co-op reached an agreement on a joint TELSET operation. The agreement concerns test operations, on the basis of which the feasibility of commercial activities will be decided on after approximately a year and a half.

In July the Teletietopalvelu [Tele-Information Service] Company of Central Finland was officially registered in the trade registry. It is compried of the newspaper KESKISUOMALAINEN, the Central Finland Telephone Company, and the Helsinki TELSET Company.

In the beginning of fall the Paijat-Ham Telephone Association and the Esa Publishing Company, which publishes SUOMEN SONAMAT, agreed in Lahti on joint TELSET testing, which will begin next year. Initially receivers will be installed only in certain public facilities.

A Company in Kotka By the End of This Year

In addition to the above locations, picture tube newspapers are being planned for Turku, Kotka, Vaasa, and Oulu. Also the leading newspapers in Kajaani, Joensuu, and Kuopio are considering the establishment of a joint TELSET operation.

In Kotka the local telephone association, the city government, and the Kotka Chamber of Commerce as well as the newspapers ETEENPAIN, ETALA-SUOMI, and KYMEN SANOMAT intend to establish a TELSET company by the end of this year.

Reijo Liukkonen, the managing director of the telephone association, states that in the initial stage the corporation intends to depend on Helsinki TELSET, from which information will be purchased.

"Later we will be able to set up our own information bank," states Liukkonen.

SAVON SANOMAT, KARJALAINEN, and KAINUUN SANOMAT, which have conducted a joint study of the market, are planning a TELSET service for Eastern Finland.

"There is nothing on paper yet, but perhaps after a year such an enterprise will become a reality," stated a spokesman of SAVON SANOMAT. "The marketing of TELSET to the general public is, however, a question of the distant future."

VASABLADT's Managing Director Erik Sundqvist states that a picture tube newspaper is taking shape and a TELSET company will be registered in the near future.

"The company is to be established before a TELSET monopoly law is put into effect," states Sundqvist.

TURUN SANOMAT intends to establish a TELSET operation in a few years. "At this time we are following the general development of this field and are considering various alternatives," states TURUN SANOMAT.

The Oulu newspaper KALEVA is planning a TELSET operation in Northern Finland.

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CSO: 5500

BRIEFS

NEW AUTOMATED PHONE EXCHANGE--The LM Ericsson Company will deliver 20 telephone exchanges to the Paijat-Hame Telephone Association by the middle of the decade. With supplemental procurements the agreement will extend into the year 1987 and its value will amount of 30 million markkas. The first deliveries will entail approximately 15,000 hook-ups. The concluded agreement first of all means that the Lahti and the Heinola telephone networks will be changed over to a digital operation, at which time it will be possible to expand telephone services. As this new technology develops an automatic wake-up service, conversation recording, and short number selection will become possible. To date 25 countries have chosen the computer-based system for their own telephone networks from the same supplier. In Finland a similar system is in use in Turku. The LM Ericsson Company has also concluded an equipment agreement with the Postal and Telegraph Service and the Tampere Telephone Co-op. The domestic level of component parts in the system is described as high since the LM Ericsson Company is responsible for planning, installation, and training with domestic resources and labor force. [Text] [Helsinki HELSINGIN SANOMAT in Finnish 21 Sep 80 p 41] 10576

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END

JPRS 76835

18 November 1980

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 139

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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JPRS 76835

18 November 1980

WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 139

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BRIEFS

TELECOMMUNICATION CABLE RESTORED--Tokyo, 30 Oct, KYODO--The undersea telecommunication cable between Japan and China which was damaged mysteriously last month has been repaired and telecommunication circuits resumed operations Thursday afternoon, a spokesman for the Kokusai Denshin Denwa Co. (KDD) said. The 850-kilometer cable between Kumamoto and Shanghai had been "hooked up and cut" by what appeared to be the anchor of a ship on two occasions. The cable was 23 circuits for telephone, 21 for telex and four for telegraphic communication. Communication between the two countries had been switched to INTELSAT (International Telecommunication Satellite). The 4,300-ton cable layer KDD Maru repaired the damage and investigated the disruption, but failed to ascertain the cause. [Text] [OW301129 Tokyo KYODO in English 1114 GMT 30 Oct 80]

TELECOMMUNICATIONS DELEGATION MEET--Beijing, 31 October (XINHUA)--Vice-Premier Gu Mu met with a delegation from Nippon Telegraph and Telephone Public Corporation here today, in the Great Hall of the People. The delegation is led by Dr Yasusada Kitahara, executive vice-president of the corporation. Vice-Premier Gu Mu and the Japanese guests had a cordial and friendly talk. Later in the afternoon, a memorandum was signed on the exchange of telecommunications techniques between the Chinese Ministry of Posts and Telecommunications and the Nippon Telegraph and Telephone Public Corporation. Chinese Vice-Minister of Posts and Telecommunications Li Linchuan and Dr Yasusada Kitamara signed the memorandum on behalf of their respective governments. The memorandum stipulates that China and Japan will have an extensive technical exchange on items of common interest in the field of telecommunications. The two sides will exchange visits of senior officials. Both countries will despatch technical and administrative personnel to study the conditions in each country. Discussions and symposiums will be held and non-confidential technical and administrative data and publications will be exchanged. Chinese Minister of Posts and Telecommunications Wang Zigang attended this morning's meeting and the signing ceremony in the afternoon. [Text] [OW311634 Beijing XINHUA in English 1619 GMT 31 Oct 80]

NEW ZEALAND-CHINESE SERVICE--Taipei, 3 Nov (CNA)--Facsimile service between the Republic of China and New Zealand will be inaugurated Monday, opening a new page in the telecommunications cooperation between the two countries, the directorate general of telecommunications said. So far the Republic of China maintains facsimile exchanges with the United States, Puerto Rico, Guam, the Philippines, Hong Kong, Singapore, Bahrain, Australia, Switzerland, Thailand and Canada. [OW030217 Taipei CNA in English 0259 GMT 3 Nov 80 OW]

CSO: 5500

BRIEFS

LINK WITH PACIFIC SATELLITE--A satellite link between Australia, Japan, New Zealand and Hawaii to provide up-to-date economic information on the Pacific and Indean ocean regions will be established next year. The link is being organized by a lecturer in social and industrial administration at Griffith University in Brisbane, Mr (Joe Mooler), on behalf of the Australian Government. Mr (Mooler) has just returned from Japan where he discussed the proposed satellite system. It will involve the governments and universities in the four countries and will be tested during a conference at the East-West Center in Hawaii which begins in January. Mr (Mooler) says the aim of the link is to provide governments with information for planning regional and national development. [OW051407 Melbourne Overseas Service in English 1230 GMT 5 Nov 80 OW]

CSO: 5500

BRIEFS

TELEPHONE SERVICE PLANS--Minister for Posts, Telegraphs and Telephones, Mr Mayeedial Islam, said in Dacca on Wednesday that the Telephone Shilpa Sangstha would be modernised soon to make it profitable organisation, says BSS. Addressing the employees of TSS at Tongi the Minister directed the authorities to examine the feasibility and viability of manufacturing railway signalling equipment, radio cover and parts in addition to normal production of telephonic equipment. He also asked the authorities to examine the possibilities of manufacturing tools and spare parts for use by various mills and factories. He exhorted the employees to make TSS an economically viable organisation with hard and dedicated work and team spirit. The Minister went round various sections of the plant acquaint himself with the problems and handicaps being faced by the employees in performance of their duties and enquired about their welfare a He assured them all possible help and cooperation to redress their grievances. [as published] The Minister was accompanied by the secretary Ministry of PT and T and the Chairman of T and T Board. [Text] [Dacca THE BANGLADESH OBSERVER in English 9 Oct 80 p 1]

CSO: 5500

PAPER GIVES FURTHER DETAILS OF NEW SATELLITE

New Delhi PATRIOT in English 26 Aug 80 p 5

[Text] Bangalore, Aug 24 (UNI)--The flight model of the APPLE (Arianne Passenger Payload Experiment), India's first geostationary experimental communication satellite, will be airlifted from the Indian Space Research Organisation Satellite Centre here to the European Space Agency (ESA) headquarters in Toulouse, France, sometime during the middle of next month, APPLE project director Dr R.M. Vasagam said here today.

He told UNI that the satellite would undergo further component testing at the Toulouse centre before its launch from the Guianese space centre at Kourou, South America, in February 1981.

The APPLE has been built basically to help India acquire competence in the utilisation of a geostationary satellite for domestic communications on an experimental basis in continuance of the STEP (Satellite Telecommunications Experiments Project).

Incorporating latest techniques like multilayered insulation and analytical modelling, the APPLE would help bridge the technological gap between the Indian satellites launched so far and the future class of the satellites to come.

The satellite weighing 630 kg at launch will be placed in a synchronous orbit around the earth using an indigenously developed solid propellant apogee boost motor.

Besides continuing the experiments through the STEP, the APPLE would take on new experiments in fields like digital communication technology and aspects with a "softer angle" like teacher training and remote area communication.

The telemetry tracking and command of the APPLE would be done through the ISRO telemetry tracking and command network stations at Sri Hari Kota (SHAR) and Ahmedabad.

CSO: 5500

MADRAS-PENANG CABLE FIRST PHASE IN NEW SYSTEM

Bombay THE TIMES OF INDIA in English 9 Aug 80 p 6

[Text] Bombay, August 8. The Madras-Penang cable link--the first submarine cable system in Indian Ocean--has been established, marking the completion of the first phase of the Indian Ocean Commonwealth cable system planned by India, Malaysia, the U.K., Sri Lanka, Australia, Singapore and Canada.

The submarine telephone cable system running for 1,350 nautical miles (2,205 km.) between Madras and Penang was laid in two weeks by the cableship the Cable Venture, starting from the Madras end. Yesterday, on board the ship, the final splice was made on the new IOCOM system, according to information received here.

Regular exchange of communication over the system and public utilisation of the facility will begin by the end of December after the shore-end terminals are linked up and tests are carried out, Mr S. Sreenivasachar, director-general, Overseas Communications Service, said.

To mark the occasion, a postage stamp will be released.

Second Outlet

The submarine cable link will provide a second outlet, as a diversity medium, for Indian international communications, giving increased reliability of service.

At present, India transmits almost all of its international communications, giving increased reliability of service.

At present, India transmits almost all of its international telecommunication traffic through the satellite in operation over the Indian Ocean. Using this, the OCS reaches earth stations in Europe, Africa, West Asia, East Asia and Australia.

The OCS will get access through the cable to earth stations in South East Asia which work with the Pacific Ocean satellites, giving India a second diversity route to Canada and the United States.

India's traffic to America is now routed by the Indian Ocean satellite to the U.K. or France and then by trans-Atlantic submarine cable to North America and finally by overland routes to destinations like, for instance, San Francisco on the Pacific coast. This is being done to avoid two satellite "hops."

A fundamental principle of telecommunication operation is not to use routes involving two satellite hops as it takes a spoken word about one-fourth of a second to reach a satellite and return to the receiving earth station.

The Madras-Penang link will also provide direct and more economic access to Malaysia and Singapore to India, with onward access by the regional submarine system network to destinations in other South-East Asian countries, in East Asia and in Australia.

Cable Equipment

The international submarine cable gateway at Madras will complement the existing satellite communication gateways at Bombay and New Delhi and the proposed one at Calcutta.

The submarine cable system comprises 2,505 km of 0.99-inch coaxial cable, with 173 repeaters and 11 equalisers spliced into the cable at regular intervals and the terminal equipment in Madras and Penang. The equalisers compensate for fluctuations in the signal brought about by changing sea temperatures and repeaters amplify signals.

The laying of the land cable at Madras was carried out by a city firm, Jost's Engineering Company, on behalf of Standard Telephones and Cables Limited which it represents in India. It is assisting the STC and the OCS in the planning and implementation of the cable system.

The total quantities of material involved in the 1,350 nautical miles of cable are 2,760 tonnes of steel, 240 tonnes of copper, 195 tonnes of aluminum, 1,980 tonnes of polyethylene and 175 tonnes of polypropylene, according to Jost's.

The entire system was designed, manufactured and installed by STC's submarine system's division plants at Greenwich and Southhampton, Josts said.

CSO: 5500

TWELVE-CHANNEL RADIO LINK WITH MOSCOW PLANNED

New Delhi PATRIOT in English 23 Aug 80 p 7

[Text] Work is in progress to create a 12-channel radio link between Moscow and Delhi, by reflecting radio waves from troposphere and picking them up by a pencil beam antenna circumventing the highest peaks of the Pamirs and the Himalayas, said Soviet scientists Dr Amatoly M. Popel and Mr A.F. Bogomolov on Friday.

The scientists, heading a 21-member Intercosmos delegation, told newsmen that an intermediate station has already been set up in Tajikistan and the line is expected to be fully operational by the end of this year.

Expressing full satisfaction with the functioning of the Indian satellite Bhaskara-I launched from the USSR a year ago, the scientists said the delegation together with their Indian counterparts had evaluated the functioning of Bhaskara-1 and was working out the details of the Soviet contribution for Bhaskara-2 satellite scheduled for launch next year.

The Soviet Union, they said, will provide launching and ground control facilities, supply storage batteries and spin stabilisation on systems for Bhaskara-2.

The Indian teams will visit and work at the Soviet space centre to gain experience in operating satellite control facilities.

The Soviet Union has offered to train Indian cosmonauts at the Gagarinte Cosmonauts Training Centre and a joint flight of Indian and Soviet cosmonauts is scheduled for a date yet to be decided.

Praising Indian achievement in the programmes the heads of the delegation said that India today is among one of the seven nations of the world which have the capability to fabricate and launch satellites of their own.

Elaborating the Indo-Soviet cooperation theme in space ventures, they said that with Soviet assistance, the Indians were able to master as early as 1975 the satellite fabrication technology.

The Aryabhatta experiment, they pointed out, demonstrated the Indian scientists' capability to design, fabricate, test and launch a totally spaceworthy satellite. Encouraged by the success of this experiment, India and the Soviet Union signed a second agreement, resulting in provision of Soviet assistance for launching of the second Indian satellite Bhaskara.

CSO: 5500

POOR RADIO RECEPTION, TV LACK NOTED IN NORTHEAST

Madras THE HINDU in English 15 Oct 80 p 18

[Text] Gauhati. The demand for inclusion of the N.E. region in the TV map of India is unlikely to be fulfilled in the near future. According to present official indications, only a perspective plan is there for expansion of the TV service in the region in the course of 10 years.

The Governor of the North Eastern States, Mr L. P. Singh, has been making a persistent plea for the establishment of TV centres in the region as a means to promote national integration and for other benefits and conveniences.

The Governor recently drew the attention of the Union Information and Broadcasting Minister, Mr Vasant Sathe, to the matter and as to how he was suggesting earlier for a TV network for the N.E. region. He also pointed out the inadequate awareness in this region about the development elsewhere in the country and also a comparable lack of awareness of the cultural and social life and the problems of the people of the region in the rest of the country.

Mr Singh said when the Government had been spending crores of rupees in dealing with various movements in this region an additional amount spent on TV for the purpose of education, including political education, for cultural purposes and for promotion of national integration would be "very much worthwhile investment."

The Governor also mentioned in his letter about the widespread complaints in the N.E. region that broadcasts from the Delhi station of All India Radio are not audible in this region unless relayed through the local stations. In contrast it was further stated that the people of this region can get on the medium wave stations as far as from Lahore, Karachi and Islamabad and even from many other foreign stations.

Mr Singh was of the opinion that in the context of the felling of isolation of the people of this region from the rest of the country, it was vitally important that the broadcasts from Delhi were "within the range of audibility" in this region.

Feeling of Isolation

Even Mr Sathe himself has felt the imperative need of making "all possible efforts" to remove this feeling of "isolation and neglect" amongst the people of this region and to bring them fully in the mainstream of national life. He has also fully shared the concern of the Governor regarding audibility and reception of the AIR programmes in the N.E. region.

Replying to the Governor's recent letter, Mr Sathe revealed that three possible locations for TV relay centres have been identified at Nowgong, Jorhat and Dibrugarh in Assam to extend TV facilities along the wide band microwave links of the Post and Telegraphs Department. These transmitters will relay the programmes generated from the State capital at Gauhati. These centres are proposed to be brought up in phases "consistent with the overall resources."

Mr Sathe further informed the Governor that Doordarshan has also drawn up a scheme for limited utilisation of INSAT-I for TV service which inter alia envisages coverage of some areas in the North Eastern region. A working group set up by the Information and Broadcasting Ministry is drawing up a "software plan" for limited utilisation of INSAT-1 for TV service. The final shape of the proposal will be known after the working group completes its work.

The Governor was further informed by the Union Minister about the setting up of a National channel in the Sixth Plan period of AIR which could be heard everywhere in the country including the N.E. region.

A number of other schemes have been drawn up or are under implementation for upgradation/improvement of AIR services. This programme includes upgradation of transmitter power of the Shillong centre of AIR from 1 KW MW to 100 KW MW, 100 KW MW transmitter at Itanagar, upgradation of transmitter power from 100 KW to 300 KW of Dibrugarh station, 20 KW MW at Tura and setting up of new stations with 20 KW MW transmitter at Goalpara/Kokrajhar and Tespur with 20 KW MW transmitter, and radio stations at Nowgong in Assam, Bomdila, Khonsa/Along in Arunachal Pradesh, Ukhrul, Saiha/Lawntalai in Mizoram, Jowai in Meghalaya, Mokokchung, Tuensang in Nagaland and Kailasahar/Belonia in Tripura.

CSO: 5500

KDD TO SEEK 'RELAXATION' OF COMPUTER LEASING TERMS

OW300603 Tokyo KYODO in English 0702 GMT 30 Oct 80

[Text] Tokyo, 30 Oct, KYODO--Japan's international telecommunication monopoly, KDD, is preparing for a major relaxation of the terms for leasing computer-linked private circuits, such as satellite communication, to international data processing companies probably from next year.

A KDD (the privately owned Kokusai Denshin Denwa Co.) official told KYODO News Service Thursday that the proposed relaxation would permit international data processing companies, private circuit leaseholders, to link with two or more computer centers overseas in providing information services to Japanese clients.

The official said at the moment such firms are allowed to connect only with one computer center overseas.

He said American data processing companies have compalined that under present terms, they could offer only limited services to Japanese customers.

These companies have thus called on KDD to relax the terms so as to enable them to provide greatly improved services--services which would meet various customer needs.

The official said that for instance, Timeshare Inc., based in Cupertino, California, which has four computer centers in the U.S., is now offering computer services to Japanese clients through its joint venture in Japan.

The joint venture is Kokusai Timeshare K.K., based in Tokyo, which is owned 55 percent by Marubeni Corp. and 45 percent by Timeshare Inc.

Kokusai Timeshare has a private satellite circuit leased from KDD.

Under a contract with Kokusai Timeshare, a Japanese client can, in Japan, use Timeshare Inc.'s computer center at Cupertino, chiefly for management analysis, pay calculation and technical calculation, an official of the joint venture said.

Following the relaxation of the lease terms, a KDD official said the Japanese client could, in Japan, utilize all the four computer centers of Timeshare in the U.S.--one in its head office in California, another in eastern U.S., a third in Dallas and the fourth in Houston.

Further, the Japanese client could, in Japan, utilize all types of calculation centers and data banks, containing scientific, technological, economic and academic information in the U.S., which are linked with the nationwide data communication network of Timenet Inc., a Timeshare subsidiary, the KDD official said.

The KDD official said the company would shortly apply to the Ministry of Posts and Telecommunications for permission to relax the leasing terms. He declined comment on reports that the application would be made in mid-November.

The official said the proposed relaxation would require no revision of the Public Telecommunications Law but only the approval of the minister of posts and telecommunications.

He said he personally did not think that the relaxed terms would go into effect later in the year.

The ministry's data communication chief also said that U.S. data processing firms' request for easier leasing terms has come up for talks at the U.S.-Japan Trade Facilitation Committee.

Akimasa Egawa, director of the data communication division, also said the matter has already been discussed with KDD. He indicated that an application for relaxation would probably be approved.

CSO: 5500

BRIEFS

RETRANSMISSION STATIONS--Vientiane, 22 Oct (KPL)--Late last month, the provincial propaganda service of Savannakhet has installed two retransmission stations in Outhoumphon and Atsaphangthong districts. Each station is equipped with a 250W transmitter and 10 loudspeakers. [Text] [BK280311 Vientiane KPL in English 0917 GMT 22 Oct 80]

CSO: 5500

BRIEFS

NEW RADIO STATION--A major new radio station has gone into service in the Mongolian People's Republic, our correspondent, Sergey Pravdin, reports from Ulaanbaatar. This is a modern radio station built by Soviet workers and specialists in Saynshand, one of the southernmost Mongolian towns. It has been handed over by our country as a gift to the Mongolian working people. Bringing this radio station into service will make it possible to ensure good reception in south Gobi for radio broadcasts from Ulaanbaatar, Moscow and the capitals of other fraternal countries. In the current 5-year period alone, five modern radio stations together with several communications centers have been built in Mongolia with the assistance of the USSR. And construction is nearing completion of a radio relay line from Ulaanbaatar to Altay which has an overall length of 2,200 km. Broadcasts from Moscow and the capitals of other countries of the socialist community can now be seen by communications satellite in all the regional centers of Mongolia. [Text] [LD010310 Moscow Domestic Service in Russian 0635 GMT 30 Oct 80 LD]

RADIO STATION COMMISSIONING--Ulaanbaatar, 27 Oct (MONTSAME)--A meeting devoted to the commissioning of a new radio broadcasting station, one of the projects presented as a gift by the Soviet Union during the current 5-year plan period, was held today in Saynshand, administrative center of Dornogobi Aymag. Speeches were made at the meeting by D. Haydar, member of the MPRP Central Committee Politburo and first deputy chairman of the MPR council of ministers, and M.P. Makareyev, minister counselor at the USSR Embassy in the MPR. On the same day the turnover and acceptance documents for the new communications projects were signed. The documents were signed by I. Norobjab, MPR minister of communications, and M.P. Makareyev, minister counselor at the USSR Embassy in the MPR. The document signing was attended by D. Maydar, member of the MPRP Central Committee Politburo and first deputy chairman of the MPR council of ministers; B. Jamsran, first secretary of the Dornogobi Aymag MPRP committee; J. Gombojab, chairman of the executive administration of the Aymag's hural; and other officials as well as G.P. Koyenman, counselor at the USSR Embassy in the MPR. [Text] [OW311011 Ulaanbaatar MONTSAME in Russian 0502 GMT 28 Oct 80]

CSO: 5500

BRIEFS

SATELLITE NAVIGATION RECEIVERS MANUFACTURED--Beijing, 21 Oct (XINHUA)--China has successfully manufactured its first batch of receivers for receiving navigational signals from satellites. The receivers have performed satisfactorily on oceangoing vessels. Satellite navigation is a modern navigational technology. The receivers, newly manufactured by China for receiving navigational signals from satellites, can be used under all weather conditions and in any part of the globe. They are highly capable of eliminating interference and they are highly accurate and stable. When China launched its carrier rocket into the Pacific last May, such receivers installed on all oceangoing survey and salvage ships played an important role in guiding the ships to successfully complete their survey and salvaging tasks. The first batch of receivers was jointly manufactured by concerned industrial departments, scientific research units and plants in China. [Text] [OW211003 Beijing XINHUA Domestic Service in Chinese 0332 GMT 21 Oct 80]

CSO: 5500

HOA SEN COMMUNICATIONS SATELLITE GROUND STATION PROGRESS REPORTED

Hanoi NHAN DAN in Vietnamese 8 Oct 80 pp 1, 4

/Article: "Perfecting Hoa Sen Communications Satellite Ground Station Project"/

/Text/ The Hoa Sen Communications Satellite Ground Station constructed portions of the technical operation to promptly receive programs from the Moscow Olympic Congress and the Vietnamese-Soviet space flight. Series of projects supporting the station have been continuously perfected. Construction Corporation 4 reinforced the project guy wire and column foundations and constructed housing, security and shift buildings, a warehouse area, reservoir, pumping station and other support projects. Construction Installation Enterprise 1 installed an electric power line and signal light on a mast 124 meters high. The local communications service paved a road around the station and spread asphalt over the remaining roads, installed warning signs and perfected the drainage ditch system. The Post and Telecommunications Corporation transported 70 tons of remaining supplies to the station and installed an internal telephone system. The Vietnam Fine Arts Association is assisting in decorations, enabling the Hoa Sen Station to be truly a cultural project. The Hanoi Public Park Corporation is planting trees and plants in the station area in accordance with plans of the Vietnam Fine Arts Association.

In the technical aspect, the post and telecommunications sector has made many experimental telephone calls through the Hoa Sen Station between Hanoi and Moscow. The quality of communications was good with clear hearability, good volume and faithful reproduction of each tone. Many photographs and news agency dispatches from Hanoi and Moscow have been transported to each other through the station. The Hoa Sen Station has also received many news programs transmitted by satellite from the Moscow television station for rebroadcast by the Giang Vo television station in Hanoi.

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CSO: 5500

BRIEFS

SEMINAR ON SATELLITE UTILIZATION--A 2-day statewide seminar which began in Prague on 8 October is devoted to the utilization of radio satellite service by the national telecommunications network. This system is also of considerable importance for the introduction of the third television channel in the CSSR. [Bratislava PRAVDA in Slovak 9 Oct 80 p 2 AU]

CSO: 5500

BRIEFS

SHORT-WAVE TRANSMISSION CENTER--Zagreb, 3 Nov (TANJUG)--The transmitter factory of Radio-Industrija Zagreb [RIZ] has taken on the entire construction and assembly of the short-wave transmission center and the aerial system for Radio Yugoslavia. This amounts to one of the most complex projects of this kind carried out in the world so far. The value of the work is estimated at about 400 million dinars. The entire system is planned to be completed in about 2 years. The contract on the construction of this project, as stated at today's press conference in Zagreb, was signed by Dr Zdravko Pecar, director of Radio Yugoslavia, and by Branko Tkalcevic, director of the RIZ transmitter factory. When this project is completed Radio Yugoslavia will have the most modern technical equipment with four 500-kilowatt transmitters by which it will transmit in nine world languages. With the installation of this system Radio Yugoslavia will be heard by inhabitants of a large number of nonalined countries in Asia, Africa and Latin America and the station will also be heard in Australia, West and East Europe and North America. Most of the equipment for Radio Yugoslavia comes from Yugoslav manufacturers and only a part of the aerial installations is imported. [Text] [LD031930 Belgrade TANJUG Domestic Service in Serbo-Croatian 1433 GMT 3 Nov 80]

CSO: 5500

BRIEFS

NEW COMMUNICATIONS POLICY--Paramaribo, Suriname (CANA)--The Surinamese Government has announced plans for creation of a national news agency, as well as a code of ethics for cinemas, in a new communications policy outlined here. The policy is based largely on recommendations of a special five-man committee which studied the media and communications in the former Dutch colony. The government will set up a national news agency which will have links with similar agencies elsewhere in the Third World. Government news will now be distributed exclusively through the Government Information Service, branches of which will be set up throughout the country. The state radio and television services will also be reorganised to ensure a greater role for them in distributing information. A code of ethics will be developed for the cinemas and norms established for their operations. The government will also start an educational program for journalists, paying particular attention to the role of the journalists in the developing process. The new policy is in keeping with a program announced last May by President Henck Chin a Sen for improving the national media. [Text] [FL291820 Georgetown GUYANA CHRONICLE in English 23 Oct 80 p 10]

CSO: 5500

ARABIC TELEX SERVICE INTRODUCED

Jiddah ARAB NEWS in English 18-19 Oct 80 p 3

[Text]

JEDDAH, Sept. 17 — Telex subscribers in the Arab world will be able to send their material in Arabic sometime next year, according to officials.

Al -Tijara, the monthly magazine published by Jeddah Chamber of Commerce and Industry quoted participants of the, Conference of Government Delegates to the Arab Telecommunications Union as saying that Arabic service will be introduced to the telex system among Arab countries a year later. The conference was held in Baghdad in August.

The confirmation of the officials is based on the conference's final approval of the technical specifications of the Arabic telex. The conference recommended establishment of an Arab telecommunications institute. Baghdad was chosen for the institutes location at the Iraq government request. Iraq has allocated $7 million — presenting a land plot, construction costs and 50 per cent of the operating expenses — while other members will provide the 50 per cent operation costs.

The institute's major aim will be to train teachers for the most advanced levels of telecommunications. The graduates of the institute will conduct training in national institutes in Arab countries. The institute will also produce a unified training program, provide means of further expression for the programs, by drawing convenient plans to promote technical cooperation between the national institutes.

Judging by the decision of the telecommunications conference, the establishment of the institute will not be delayed much. A committee was formed to layout a basic policy project for the institute to be prepared before the extraordinary conference of the Arab Telecommunications Union in October.

The extraordinary conference will discuss the basic policy project for the telecommunications institute, approve it and make certain adjustments to the union's regulations. The meeting will also consider unifying telephone and telex definitions in Arab countries.

CSO: 5500

AGREEMENT SIGNED WITH SUDAN-ETHIOPIAN NEWS AGENCY

LD221122 Khartoum SUNA in English 1024 GMT 22 Oct 80

[Text] Khartoum, 22 Oct (SUNA)--An agreement on mutual cooperation and news dissemination was concluded here yesterday evening between the SUDAN NEWS AGENCY (SUNA) and the ETHIOPIAN NEWS AGENCY (ENA).

SUNA General Manager Mustafa Amin signed for the Sudanese side. ENA General Manager Haile Mariam Coshis signed for the Ethiopian side.

Consisting of a number of articles, the agreement is aimed at the promotion of information links between the two countries in the fields of transmission of news items and facts besides the training of journalistic cadres.

Speaking on the occasion Coshis lauded the role the agreement could play regarding the strengthening of relations between the two agencies, particularly in the spheres of information.

On his part Amin expressed hope that the two parties would (?comprehend) the tasks of their big responsibility towards the promotion of relations between the Sudan and Ethiopia.

The signature ceremony was attended by SUNA Deputy General Manager Mohamed Husi Hawash and theEthiopian charge d'affaires [first name indistinct] Isma'il Hassan.

CSO: 5500

BRIEFS

TELEPHONE MODERNIZATION--Munich, 20 Oct (DPA)--An international consortium led by Siemens (Berlin and Munich) has received an Egyptian order worth DM600 million for the modernization of the Egyptian telephone and telecommunications network. The order forms part of a five-year modernization project running from 1979 to 1984 with a total value of DM3.5 billion. The French Thomson CSF and Siemens, Austria, are the other members of the consortium. Egypt's antiquated telephone network was built by the British 35 years ago. [Hamburg DPA in German 1650 GMT 20 Oct 80 LD]

CSO: 5500

BRIEFS

AWACS DISRUPT COMMUNICATIONS--A responsible source at the United Arab Emirates [UAE] Communications Company, (AMERCEL), stated that the cause for a break in outside contacts between the UAE and the United States, Britain and France was due to the spread of wavelengths emanating from Saudi Arabian territory. The source added that the wavelengths affected all telecommunications services in the area and also led to disrupting international telephone and telegraphic services. The Jana correspondent in the Arabian Gulf noted that announcing the disruption in telephone communications between the UAE and some other states comes in the wake of the AWACS spy planes flights in Saudi Arabian skies where the planes are observing the area with extremely advanced and complex instruments. The reporter added that these planes previously disrupted the relaying of prayers on Mount 'Arafat via satellites to television and radio services in Islamic countries. The leader of the revolution in the speech on the occasion of 'Id al-Adha festival said that U.S. AWACS planes which occupy the skies of the holy places had led to disrupting the relay of prayers on Mount 'Arafat to Islamic radios. He demanded the liberation of the skies of the holy places from this unprecedented U.S. colonialism. [Text] [LD282257 Tripoli Voice of the Arab Homeland in Arabic 2200 GMT 28 Oct 80]

CSO: 5500

TELECOMMUNICATIONS PROJECTS INAUGURATED

Jiddah ARAB NEWS in English 30 Sep 80 p 1

[Text]

SANAA, Sept. 29 (Special) — Col. Ali Abdulla Saleh, president of Yemen Arab Republic has officially inaugurated a number of telecommunications projects on the occasion of the 18th anniversary of the Sept. 26 revolution. The projects include the laying of the foundation stone of a standard satellite earth station, a new international telephone switching center and a training school.

The president was met at the Cable Wireless installations at al Ghuraff area by Ahmed al Ansi, minister of transport and communications and senior officials of Cable and Wireless. He was accompanied by President Abdul Kareem al Arashi, Prime Minister Abdul Aziz Abdul Ghani, ministers and other senior government officials.

After laying the foundation stone of the second earth station the president unveiled the plaque officially opening the new ITSC from where he made a direct phone call to the Yemeni embassy in Paris. The president then opened the training school and had a quick tour during which he was shown the various sections and the most modern telecommunication training equipment available.

The laying of the foundation stone of the new earth station shows the growth and development of telecommunications in Yemen. It is to meet the demand for additional circuits which cannot be met with the present standard earth station opened in November 1976. Work on the new project will begin in October this year at a cost of Y.R.40 million. Nippon Electric Company will build the station which will be ready for service in the first quarter of 1982.

The new 24-switchboard positions international telephone switching center will cater for the increasing telephone demand by providing an efficient means of automatic access from and to YAR and facilitates the introduction of the international subscriber dialling service.

The new training school will meet the demands for the technical and management training in telecommunications and qualify the Yemenis to play a bigger part in operating this utility. The school already received the first group of trainees, 9 technicians, 10 telex and telegraph operators, 3 teleprinter mechanics and 4 radio-telephone operators.

During their training period, they study English language, mathematics, engineering science and elementary telecommunications practice for 2 years at the school and then they join the C and W Porthcurno Engineering College in the U.K. for 5 months. Trainees also receive practical training on the various types of equipment and apparatus available at the school.

Telecommunication traffic in Yemen is growing and international telephone traffic was 6300 paid minutes in June 1975. In June 1980 it rose to 106,054 minutes. International telex was 16,850 minutes in June 1975 compared with 93,311 minutes in June 1980. Telegraph traffic also increased from 8,369 messages in June 1975 to 17,628 in June 1980.

Telecommunication's is a part of a development program under a ten-year agreement signed last year between Cable and Wireless and YAR's government for the expansion and improvement of the country's international telecommunications services.

CSO: 5500

BRIEFS

TELECOMMUNICATIONS CONFERENCE--Brazzaville, 28 Oct (AFP)--Telecommunications authorities in the Central African sub-region are holding a conference here to discuss improved coordination, the Congolese News Agency reported today. Camaroon, Gabon, Central African Republic, Zaire and Congo are attending the conference, which opened yesterday. Participants are considering plans for numbering and switching coordination. [Text] [Paris AFP in English 1330 GMT 28 Oct 80 AB]

CSO: 5500

EDUCATIONAL RADIO, TV STATIONS TO BE INSTALLED

Addis Ababa THE ETHIOPIAN HERALD in English 15 Oct 80 pp 1, 5

[Excerpt] Addis Ababa (EH)--The Educational Mass Media Service of the Ministry of Education is to install nine new radio transmitting stations during the current academic year with a view to disseminating education among the broad masses and properly implementing its objectives in line with the NDR Programme.

This observation was made by Comrade Yihun-Belai Mengistu, Head of the Educational Mass Media Service, during an interview with The Ethiopian Herald.

He said that the new radio transmitting stations, the constructions and installation work of which is already underway, are located in Dessie, Lege-Dadi, Mekele, Debre-Markos, Bahir-Dar, Gimbi, Gore, Robe and Alemaya. Between now and December, Comrade Yehun-Belai stated, the Lege-Dadi, Alemaya, Robe, Gore and Gimgi transmitting stations will become fully operational and the remaining stations begin broadcasting educational programmes before the end of the current academic year.

Supplement to Formal Education

As a supplement to formal and adult education, so far, the Educational Mass Media Service has been broadcasting educational programmes from its two radio transmitting stations that are located in Addis Ababa and Wolayita Sodo. Accordingly, the programmes in radio broadcast cover Amharic, English, social studies, and science subjects for grades 1 to 6 as a supplement to formal education, the head of the Mass Media Service revealed.

In the same manner, he continued, the Educational Mass Media Service also broadcasts material involving science, productive technology, handicrafts and social science for grades 1 to 6 on television twice a week in the evenings.

CSO: 5500

ROBERTS DISCUSSES TELECOMMUNICATIONS DEVELOPMENTS

Monrovia THE REDEEMER in English 16 Oct 80 p 8

[Text] The Managing Director of the Liberian Telecommunications Services, Mr. Charles B. Roberts has stressed the need for the Telecommunication mechanism in Liberia to coordinate and achieve a standard of efficiency that would be acceptable on both national and international terms.

He said that the antidote for such a development would require not only the expansion of services in the country, but also the maintenance of those services that are expanded.

Speaking during an interview last week, Mr. Roberts said although there has been a significant improvement in Telecom's services to the people, his administration hopes to place equal emphasis both on the expansion of services and adequate maintenance of the country's communications apparatus.

The 30-year-old Roberts who took over the reins of the corporation's leadership barely two weeks ago, said, "until we have developed a reliable service within, it will be difficult to derive maximum benefit from expanded international service capacity."

Mr. Roberts cited as an example the current telecommunications network in Monrovia, especially the cable network which he said needs to be completely rehabilitated.

However, Mr. Roberts said as part of a remedial measure, his corporation had just concluded a contract with a Swedish Firm (SWETEL), Swedish Telecommunications for the rehabilitation of LTC's outside cable plan.

Meanwhile, there are plans afoot for the coordination and extension of telecommunication services between member states of the Economic Commission of West African States (ECOWAS).

Through this undertaking, says the LTC boss, ECOWAS member states will have the opportunity of communicating directly with one another instead of relaying their communications through a European nation as in the present case.

In this connection, he noted that Liberia has been one of the few nations in the ECOWAS community which have completed most of her telecommunications development project time "despite the corporations financial constraint."

CSO: 5500

JAPANESE TEST EQUIPMENT PRESENTED TO TELECOMMUNICATIONS

Monrovia THE REDEEMER in English 16 Oct 80 p 8

[Text] A volunteers of the Japan Overseas Co-operation Venture (JOCV), Mr. Yoshihiro Sato presented $4,000 worth of test equipment to the Liberia Telecommunications Corporation here last Tuesday. [as published]

At the ceremony, Mr. Sato told Telecom Managing Director, Charles B. Roberts, Jr. that the equipment were given under the Japanese Technical Assistance program to Liberia.

The equipment are high power "controlled diagnostics" for testing and continuous monitoring of faults on equipment and machines at the Liberia Telecommunications Corporation.

Mr. Roberts thanked the technical volunteer, and hoped that cooperation between Liberia and Japan would continue in the maintenance and development of Telecommunication System.

He informed Mr. Sato that there were Japanese experts contributing to the development of the Telecom System in Liberia.

Mr Roberts thanked the Japanese government for providing the technicians, who, he said, were helping to rehabilitate the entire cable plant for telephone system throughout Liberia.

He hoped the level of cooperation and technical assistance provided by Japanese team would increase in proportion to the needs and requirements of the corporation. LINA

CSO: 5500

BRIEFS

SWAPO TRANSMITTERS--SWAPO is installing transmitters for propaganda that are as powerful as and even more powerful than SABC's. Justice minister Kobie Coetsee stated this at a Reddersburg dispatch-riders gathering. He said many people listened to the English and Afrikaans broadcasts, whereas very few ever listened to the 20 transmitters of South Africa's opponents. Over 300,000 words of propaganda are "unleashed" weekly on South Africa by the transmitters. The broadcasts distort the country's economic situation, stir up hate and spread anti-white propaganda. Coetsee said that the political option offered to the country's blacks by South Africa's opponents is a black majority government that will eventually turn into a one-party totalitarian state. "This option must be neutralized with a better political offering." [Text] [Windhoek DIE SUIDWESTER in Afrikaans 16 Oct 80 p 5]

CSO: 4408

BRIEFS

TWO TRANSMITTERS INSTALLED--The presidential adviser on information, Chief Olu Adebanjo, and the director general of the Federal Radio Corporation of Nigeria, FRCN, Mr George Bako, today left Lagos on a 2-day official visit to (Suleja). The tour is to appraise the progress so far made by the FRCN in the area. Mr Bako told newsmen at the Murtala Mohamed Airport that the visit will also help the presidential adviser to see things for himself and make recommendations to the federal government. The director general disclosed that two new 50-kilowatt short wave transmitters were being installed in Ijede near Ikorodu for the educational program of the corporation. Mr Bako stated that the FRCN has a number of constraints militating against its operation in Abuja. These, he said, include accomodation. [Text] [AB271400 Lagos Domestic Service in English 1200 GMT 27 Oct 80]

COMPANY PLANS NEW PROJECTS--Nigerian External Telecommunications, Limited, NET, has embarked on extension projects valued at over 52 million naira. They involve the upgrading of the Lanlate satellite system at a cost of 2 million naira, the installation of a satellite earth station in Kujama at about 40 million naira and the construction of an international telephone switching center and telex exchange in Kaduna at a cost of 10 million naira. The acting chairman of the company, Chief Ola Yusufu, disclosed this in Lagos today while briefing newsmen on the activities and future plans of the organization. Chief Yusufu outlined some of the projects proposed for execution by the company in the fourth national development plan period. They include the third satellite earth station in Lanlate, construction of the microwave link between Lagos and Lanlate, as well as microwave links between Abuja and Kaduna and maritime satellite communications system. Chief Yusufu regretted that the inclusion of the company in the unified salary structure had made it impossible for it to retain experienced staff in its services. He urged the government to allow the company to operate a salary structure in line with what is obtainable in other places with similar business. [Text] [AB311143 Lagos Domestic Service in English 1500 GMT 30 Oct 80]

CSO: 5500

DETAILS OF 1982 BLACK TV CHANNEL GIVEN

Johannesburg THE CITIZEN in English 15 Oct 80 p 18

[Text] **THE South African Broadcasting Corporation has confirmed that the TV2 channel to be introduced in 1982 will consist of two separate services — an Nguni channel (Zulu and Xhosa) and a Sotho channel (Southern Sotho and Tswana).**

Instead of the language block being split as previously advised, each language group will now have 27 hours of broadcasting time a week, effectively doubling the availability of commercial time.

The SABC emphasises, however, that TV2 is not a commercial service — it will specifically cater for cultural requirements of Black viewers. In addition, it will not seek maximum audiences at the cost of lowering programme standards or narrowing the spectrum of appeal.

The service will carry commercials from the outset, and the allocation system, such as is used for TV1 is likely to be adopted, as early indications are that demand for air time may exceed the supply.

The initial allocation operation will start with the announcement of the applicable rates in April, 1981, although firm contracts for advertising time will only apply on or after July 1, 1982.

The five transmitters which will be in operation at the commencement of the service will provide a coverage of over 2,2-million Blacks, around 80 percent of them in urban areas.

The power of the transmitters will be increased during the course of 1982, increasing coverage to over 3,5-million Blacks, 73 percent in urban areas.

Commercials will comprise 8 percent of overall transmission time, with no advertising on Sundays. Based on total broadcast time of 27 hours a week, this will give 129,6 minutes a week, or around 13 480 x 30 seconds a year.

A preliminary survey amongst agencies indicated that the service will be oversubscribed, although fewer brands will be applying for time than was the case with TV1 (309 brands compared with 492 for TV1 in the first year).

Commercials appearing in the Nguni programme block, will need to be either Zulu or Xhosa and those in the Sotho block, in one of the three Sotho languages. Advertisers will not be required to make commercials in five different languages.

Allocation of commercials will be the same as for TV1, ie half the time will be in the Nguni block and half in the Sotho block, based on the formula of market share, if known, and advertising expenditure share.

CSO: 5500

NEW NATIONAL NEWS AGENCY FORMED

Salisbury THE HERALD in English 28 Oct 80 p 1

[Text]

THE Minister of Information and Tourism, Dr Nathan Shamuyarira, yesterday announced the formation of a new national news agency to be known as the Zimbabwe Inter-African News Agency (Ziana).

The announcement followed a decision taken in Johannesburg earlier in the day by the board of the South African Press Association to relinquish its shareholding in the Inter-African News Agency.

The Sapa board statement said:

"Following cordial discussions between representatives of Sapa and the Minister of Information of Zimbabwe, Dr Nathan Shamuyarira, the board of Sapa resolved to divest itself of its shareholding in the Inter-African News Agency of Zimbabwe.

"This step will enable the Minister to establish a trust to hold the shares of Iana which will be renamed the Zimbabwe Inter-African News Agency.

"Ziana will continue to be the domestic news agency of Zimbabwe but will be wholly Zimbabwean owned and operated. Sapa will cease to have any connection with Ziana other than any contractural agreements which may be made to buy and sell news services such as may be entered into between any two independent news agencies.

"For its part, Sapa will establish a branch office in Zimbabwe to maintain a flow of news on Zimbabwean affairs to Sapa members and subscribers in South Africa and elsewhere."

Dr Shamuyarira's statement said:

"This resolution removes the last obstacle in the way of establishing a Zimbabwe news agency.

"We could not perpetuate a situation where the news agency of a free and independent Zimbabwe was owned and managed by a South African company. We made the fact known to Sapa and we are pleased that they have responded positively.

"The Zimbabwe Mass Media Trust to be established soon will take over all the shares of Sapa in Iana. The trust will be a self-perpetuating body. Initially it will have to be set up by Government, but once that is done it will stand entirely on its own feet.

"The trust will appoint a manager and an editor for Ziana to replace those appointed by the South African company—Sapa. Most of the staff will be absorbed by the new agency."

Asked for comment, the chairman of Iana, Mr Ken Wilson, last night said he was satisfied the new company will be independent and free from any Government control.

Present staff would be retained, he said, and there would be no change in their conditions of service.

CSO: 5500

BRIEFS

DATRONIC CONTRACT--Datronics, a subsidiary of the CF Tulley Associates Group, signed formal contracts worth $1,5 million with seven major Zimbabwean organisations. Among those who are to buy computers and software are the Treasury, the Agricultural Marketing Authority, Treger Industries (Pvt.), G and D Shoes, Windmill (Pvt.) and Database (Pvt.). Mr John Tulley, managing director of Datronics and C.F. Tulley Associates, said that although they were relatively new companies they now accounted for a major part of the data processing industry in Zimbabwe. He also announced the formation of a new company Database (Pvt.) Ltd., a consortium consisting of Progress Investments (Pvt.), Treger Holdings, Datronics and another as yet un-named partner. Mr Tulley said that he expected similar consortia to be popular in this country because of the high cost involved in establishing computer installations. He also announced that an annual bursary will be awarded by C.F. Tulley Associates to students of computer science, worth $2 000 to cover tuition and residence fees and textbook expenses. The award will be restricted to Zimbabweans intending to take up employment in this country. [Text] [Salisbury BUSINESS HERALD in English 23 Oct 80 p 8]

CSO: 5500

BRIEFS

OPEC NEWS AGENCY BEGINS--Vienna, Nov 3 (TAP-GNA)--The OPEC News Agency will officially begin its broadcasts on Monday from Vienna with a daily average of 1500 words broadcast to 70 countries of the five continents. The news will essentially be centered on energy and will deal with the oil policy of OPEC and of its member states within the framework of the present international economic relations. The central agency will receive news from the 13 OPEC member states and correspondents working in these countries' national news agencies. [Text] [LD041112 Tunis TAP in English 1412 GMT 3 Nov 80]

CSO: 5500

SATELLITE EARTH STATION EASES COMMUNICATIONS WITH EUROPE

Reykjavik MORGUNBLADID in Icelandic 7 Oct 80 p 3

[Article: "The Satellite Earth Station Skyggnir Begins Operation: Direct Dialing to Europe Except Nordic Countries and Britain"]

[Text] The satellite earth station Skyggnir in Mosfellssveit began operating on partial basis yesterday and it is now possible to dial direct to various countries in Europe. The Nordic countries and Britain will be connected to the system through West Germany in about a month from now. Later it will be possible to transmit television material directly via satellite, but that has not been finalized yet.

Director General of Posts and Telegraphy, Jon Skulason, said in an interview with MORGUNBLADID that this marked an important phase in Iceland's telecommunications. During the coming months, direct dialing will be established with most countries we have telecommunications with. In order to offer this service, it was necessary, on one hand, to build an automatic international telegraph station in Reykjavik, the Muli station, and on the other hand, to build a satellite earth station, which was built in Mosfellssveit. The satellite earth station was built in cooperation with the Great Nordic Telegraph Association in Copenhagen. Iceland is a member of Intelsat, an international company which launches and operates telecommunications satellites across the oceans. The total cost of the station is around 2.8 billion Icelandic kroner at the current rate of exchange.

To begin with it will be possible to dial overseas direct from the Reykjavik area. Adjustments are currently being made for all telephone users to dial direct overseas. The plan is to finish that as soon as possible. There will be some change in service fees for telephone calls; the fee to call Germany will be reduced by 13 percent and by 2.2-7.5 percent to other countries. It will continue to be possible to dial through the operator by dialing 09. For the time being, 09 will also be the number to dial for information about overseas calls, but that number will be replaced by 08 next month.

Officials from the Post and Telegraph Administration showed newspeople Skyggnir yesterday. Also present were area officers from the Post and Telegraph Administration along with the staff at the satellite earth station.

9583
CSO: 5500

SPECIFICATIONS FOR TDM TELEGRAPH, DATA MULTIPLEXERS

Rome NOTE, RECENSIONI, NOTIZIE in Italian Jan-Mar 80 pp 15-20

[Article by S. Colonna, A. Giuseppini and G. Rinaldo]

[Text] Summary

The present article presents technical specification No 662 of the ISPT [Higher Institute of Posts and Telecommunications] relative to time-division multiplexers for telegraph and anisochronous data that correspond to recommendation R.101 of the ITTCC [International Telephone and Telegraph Consultative Committee].

The mechanical structure and the performance characteristics required of the multiplexer are illustrated. Special attention is devoted to the approaches taken to limit heat dissipation and to the choices made in order to guarantee complete programability.

1. Introduction

The ITTCC, at the conclusion of the 1972-76 study period, issued two new recommendations, R.101 and R.111, regarding apparatuses capable of multiplying telegraphic and anisochronous-data signals. These apparatuses, using time-division (TDM) techniques, have aroused considerable interest in the PT [Posts and Telecommunications] administrations because the use of such techniques represents today a very valid alternative to those of frequency-division multiplexing (FDM), both from the purely technical point of view and especially from the economic one. If one considers the constantly growing demand for data and telex services in Italy, and the forecasts, which do not anticipate any drop in such demand in the future, one can easily understand why the Italian PT administration has been considerably interested in and eager for the standardization of equipment using the TDM technique.

The two new Recommendations relate to systems for TDM multiplexing of anisochronous signals in accordance with, respectively, two modalities: the first dependent on the format and speed of modulation of the start-stop signal (R.101 code dependent), and the second independent both of format and of modulation speed (R.111 code independent).

On the hypothesis of wanting to multiplex 50-baud tributary channels, the code-dependent TDM systems can carry 46 on a digital flux operating on digit frequency of 2.4 kbits/sec, while the code-independent systems are capable of multiplexing 240 50-baud channels on a 64-kbits/sec flux. Flux at 2.4-kbits/sec can easily be transmitted by data **MODEM** on a normal analog telephone circuit, or, by using multiplexing of higher magnitude (using, for example, a multiplexer in accordance with ICCTT Recommendation X.50), can be sent on a 64-kbit/sec digital carrier, making it possible to bundle 920 50-baud tributary channels. This greater efficiency (about 4 times) as compared with that offered by the code-independent TDM systems, and especially the possibility of immediate use by means of a normal analog telephone channel, have led the Italian PT administration to concentrate its attention on Recommednation R.101 (alternative B) rather than on Recommendation R.111.

This choice has taken concrete form in the preparation of "Technical Specification No 662 relative to time-division multiplexing equipment dependent on code and speed, with interconnection of bits for telegraph and data transmission with aggregate speed of 2,400 bit/sec" published in February 1978 by the Higher Institute of Posts and Telecommunications.

2. Technical Specification No 662

It is articulated in five chapters, each of which is subdivided into sections; it describes completely both the mechanical and the electrical requisites for the multiplexer and contains the prescriptions relative to the data MODEM which, it is anticipated, may equip the TDM rack.

Our purpose here is to give a panoramic overview of the contents of each specification, considering, where necessary, the reasons for the choices made and the requirements prescribed by Recommendation R.101, alternative B.

3. The Mechanical Structure of the Apparatus

The apparatus is made by using the now well-established N2 technique, and a rack of standard dimensions of 2,600 mm height, 120 mm width and 225 mm depth is used to mount the following functional assemblies:

--power-supply assembly;

--telegraph-data channel interface assembly;

--lattice-elaboration and sequential-timing assembly;

--MODEM assembly;

--services and alarms assembly.

As regards the positioning of these assemblies on the rack, so as to provide freedom for designing, the specification states only that the power-supply assembly is to be positioned at the lowest part of the rack and that the lattice-elaboration and sequential-timing assembly as well as the services and alarms assembly be placed in the central part of the rack so as to provide ease of control by the personnel in charge.

As for the exchange wiring, it has been decided that it is to be run in at the top of the rack, to exclude the possibility, as foreseen by standard N2, of its entering the rack so far as to reach the assemblies or the units. This decision was dictated not only by the conviction that rack wiring done in the factory proves intrinsically more reliable than wiring done on site, but also by requirements of the installation work itself, which is done directly by the exchange operators.

It has been provided that by the making of a simple hole at the base of the rack, the plant wiring can come from the bottom, as in the case of plants that have a floating floor.

For all the other aspects relative to mechanical structure, the specification follows standard N2 entirely.

4. Standardized Connectors

All the connectors situated on the front of the equipment for use by the exchange operators have been standardized.

For the sectioning of the telegraph line, the jack-type 4-pole connector made by Siemens, with the contacts protected by a dust cover, has been adopted. For measurement, a cord with a male connector at one end and a female at the other is used to make the connection with an appropriate unit on the services assembly, by which a series of measurements and checks can be made easily.

For all the other sectionings, though, FACE [expansion unknown]-type connectors of 3.81-mm pitch have been adopted.

5. Performance Characteristics of the Equipment

In Section 1 of Chapter 4 of the specification, under the heading "Characteristics of the Signals," all the performance characteristics of the multiplexer, in accordance with what ITTCC Recommendation R.101, alternative B, establishes, are described.

We shall not go into a detailed description here but shall rather only point out several essential characteristics.

The multiplexer, which is capable of bundling 46 50-baud tributary channels by the time-division technique in a 2,400-bit/sec digital flow organized in lattices, guarantees an effective net margin of not less than 40 percent at the channel input, and as regards its regenerative characteristic, distortion lower than 3 percent.

In addition to its 50-baud modulation speed, the multiplexer is capable of handling seven other speeds--specifically, 75, 100, 110, 134.5, 150, 200 and

300 bauds--with ITTCC alphabet No 2 and No 5, both in a homogeneous and in a heterogeneous manner. Thanks to bit-by-bit multiplexing, the time for transferring the signals through the equipment is reduced to the minimum, thereby guaranteeing correct transit of telex signaling. Regarding this signaling, each tributary channel can be preset to accept any one of the signaling types provided for by the ITTCC--specifically, A, B (with selection by disc or keyboard), C and D; in addition, different signaling types can be used in the two directions of transmission.

Finally, it is worthwhile to point out that the outputs from each cahnnel are monitored in such a way that in case of incorrect functioning of the system, they restore--at choice--one of the following conditions:

(a) restoration of permanent start polarity;

(b) restoration of permanent stop polarity;

(c) restoration of permanent start polarity after a loop at the end for a period of about 5 seconds.

6. Direct-Current Channel Interfaces; Heat Dissipation

Two types of interface, designated as low-power and high-power, respectively, have been standardized. The former has electrical characteristics that correspond to Recommendation V.28 of the ITTCC and is appropriate for the connections with the new electronic telegraph exchanges for which signals of ±20 mA current are not necessary.

The latter interface (high-power), though, deals with the present situation, in which electromechanical exchanges and terminals for which telegraph-signal current of ±20 mA is required are very widespread. Precisely because of this aspect, this type of interface must therefore have performance characteristics equal to the traditional ones, used in the FDM telegraph multiplexers. From the beginning of the work of drafting the specification, this necessity raised a serious probelm as regards dissipation of power. Indeed, in the traditional FDM telegraph equipment, with the average line loads normally used (1,000-1,300 ohms), about 2/3 of the power required for the telegraphic restitution circuits is necessarily dissipated in the form of heat inside the equipment. While this can barely be tolerated for FDM multiplex, it cannot be tolerated for TDM multiplex, inasmuch as the latter has nearly double the number of channels in the same rack-space; therefore, permitting dissipation per channel equal to that tolerated for FDM multiplex equipment would mean accepting, at the rack-space level, heat dissipation of dangerous proportions. The specification has consequently imposed, through its prescriptions, the adoption of circuit solutions for the electronic restitution device which, while guaranteeing the performance characteristics themselves, especially as regards the speed of the commutations of the current between the two polarities even with highly inductive loads, ensures entirely acceptable limit power dissipation by the equipment. This limit is set at 65W (less than half the dissipated power of an equal number of FDM telegraph channels), and the resultant benefits in terms of the size of the exchange air-conditioning installations, consumption of electric power, and the life of the equipment scarcely need be pointed out.

An interface of one type (high-power or low-power) can take the place of the other type of interface on the rack by the simple change of a card, and in addition, the multiplexer can be equipped in a mixed manner also--that is, with high-power and low-power interfaces--without any special device.

7. The MODEM Assembly

For the purpose of permitting insertion of the multiplexed (aggregate) signal at the speed of 2.4 kbit/sec on a 300-3,400 Hz voice channel, the specification provides that the apparatus may be equipped with a modulator-demodulator assembly.

In the determination of the specifications for this set, three objectives esserntially were kept in mind:

(1) finding the appropriate interface circuits;

(2) cooperation with TDM apparatuses belonging to foreign systems;

(3) possibility of being able to make use of an outside MODEM, when useful or necessary.

On the first point, in consideration of the particular operational utilization of the MODEM, the number of interface circuits provided for by Recommendation V.26 of the ITTCC (relative to 2,400 bit/sec MODEM's) has been limited to what is strictly necessary. Specifically, they are the following:

102 - signal ground or common return;

103 - transmission of data;

104 - reception of data;

109 - detection of signal presence in line;

110 - detection of signal quality;

113 - timing for the signal elements in transmission (from MODEM to TDM):

115 - timing for the signal elements in reception.

Special mention should be made of of the 110 circuit (signal-quality detector), which, although not provided for by the abovementioned Recommendation V.26, has been implemented so as to be able to have an alarm indication whenever there is a reasonable probability that the quality of transmission has dropped below a specific level.

As regards cooperation with TDM apparatuses belonging to foreign networks, all the fundamental characteristics of the MODEM in the specification correspond to ITTCC Recommendations V.24, V.26 and V.28; in particular, it has been provided that the MODEM be equipped with differential phase modulation of type A and type B, selectable by the exchange operator.

Finally, for cases in which it is desired to make use of a MODEM external to the equipment or to have access to a multiplexer of higher order, all the interface circuits have been led to an appropriate terminal strip positioned at the top of the rack in an easily accessible place. The 105, 108/1 and 111 circuits are also located on this terminal strip.

8. The Alarms Assembly

The alarms assembly is for signalling anomalies in the equipment by means of:

(a) activation of a function alarm;

(b) activation of a recapitulation alarm;

(c) the presence of a mass contact on the terminal strip for remote transmission of the alarms.

The recapitulation alarm has the task of summarizing the function alarms; it does the logical sum of the various alarmed functions, whereby the appearance of any alarm causes the lighting of a red lamp at the top of the rack and the closing of a mass contact on the terminal strip.

The recapitulation alarm can be cancelled by means of a centralized pushbutton control; the cancellation causes the red lamp to be turned off and the mass contact to be deactivated. The cancelled alarm is memorized, though, through the lighting of a yellow lamp positioned next to the red one. The cancellation and the related memorization make the circuits of the recapitulation alarm available to receive further alarms. Another characteristic that is not present in FDM multiplexing is that of self-cancellation, which has the effect that the disappearance of an alarm previously cancelled and memorized does not entail further signallings. In FDM multiplex, though, the disappearance of the alarm causes the relighting of the recapitulation-alarm lamp (and also an acoustic signalling), which makes the exchange operator go back to the equipment to actuate the cancellation control.

Before going on to discussion of the function alarms, it is useful to point out that the recapitulation-alarm and memorization lamps can be powered either by external DC voltage or by voltage furnished by the rack feeder. The latter situation has been provided for in order to deal with the possibility of the equipment's being installed in places where external DC voltage is not available (for example, post offices).

9. The Function Alarms

Several of the most important functions carried out by the equipment are provided with an alarm circuit (function alarm).

The functional anomalies that are announced by means of a luminous optical device (usually an LED) are indicated below.

(1) Alarm for loss of lattice synchronism (FAT: Out of Lattice Alinement).

This alarm is activated when the multiplexer receives three consecutive erroneous synchronism words.

(2) Alarm for in-line signal that is outside the limits set (RFS: Network Out of Service).

This is activated when the 109 circuit of the data MODEM is in a state of rest.

(3) Alarm for deterioration of signal quality in line (AQS: Signal-Quality Alarm).

It is activated when the 110 circuit of the data MODEM is in a state of rest rateof error in line greater than or equal to 1.10^{-3}).

(4) Alarm in remote terminal (ATL: Remote-Terminal Alarm).

The alarm is activated when an inverted synchronism word is received.

(5) Alarm for incorrect functioning of the lattice and timing assembly (ALC: Centralized Logic Alarm).

The alarm monitors on a continuous basis the principal operations carried out in the lattice-elaboration and timing assembly.

(6) Programming-error alarm (APE: Erroneous Programming Alarm).

It is activated when, in the multiplexer's programming operations, one position in the sublattice is assigned to more than one channel.

(7) Alarm for incorrect feeder functioning (AGA: Feeder Breakdown Alarm).

Absence of one or more equipment power-supply voltages as well as dangerous increases and/or decreases in the voltages used, over 20 percent, activate this alarm circuit.

10. Remote Signalling of the Function Alarms

For the purposes of remote signalling by means of closing of mass contacts, the function alarms are grouped as follows:

--OR of the FAT, RFS and AQS alarms for remote signalling of functional anomalies in the connections insofar as such alarms concern, in a general way, breakdowns outside the equipment;

--ATL alarm;

--OR of the ALC and APE alarms for remote signalling of functional anomalies of the elaboration part of the multiplexer as well as erroneous programming of it;

--AGA alarm.

11. Measures in Case of Alarm

At commencement of an RFS or FAT alarm, the equipment takes--at the level of the individual channel with different timing, and by choice--one of the measures mentioned earlier; specifically:

(a) restitution of continuous start polarity;

(b) restitution of continuous stop polarity;

(c) loop closure toward the remote terminal for a limited time (about 5 seconds).

For the ALC and AQS alarms, the equipment can take the same measures or can limit itself to signalling the anomaly.

12. The Services

In addition to the unit--referred to under point 4.--that makes it possible to take measurements and make checks both after the sectioning of the telegraph lines has been done or in parallel with the lines themselves, a meter that measures both the currents and the telegraphic voltages is mounted on the rack. This instrument also makes it possible to check the voltages put out by the rack feeder.

The rack can also be equipped with two optional metering instruments. The first is a simple meter that measures the level of the signals on the telephone line, and the second is a test-signal generator and detector. The latter, connected by leads to the input and output of a channel interface, is capable of furnishing test signals at all speeds and character formats used by the multiplexer and of showing correct reception by signalling, by the lighting of an LED, any erroneous bits; such bits can also be counted by applying a counter to an outlet already prepared for it and located on the face of the generator itslef.

13. Programming

It was stated earlier that in accordance with alternative B of ITTCC Recommendation R.101, the specification provides for the equipment's being programmed to multiplex tributary channels at different speeds and character structure in all possible combinations as well as to handle the different types of telex signalling and to adopt different behaviors in case of breakdown. The specification does not say anything about how such performance characteristics are to be realized, but limits itself to asking for several requirements that can be summarized as follows:

(a) it must be possible for the exchange personnel to reprogram the equipment directly during functioning by simple operations, without substitution of parts, and working with elements of high reliability;

(b) the reprogramming must take place without interruption of service in the channels not involved;

(c) no machine information must be lost for lack of primary power supply.

As one notes, these requirements are of operational type and aimed at maximum economy and minimum operating difficulty. They allow the manufacturing firms broad freedom of design and do not impede the utilization of future technological development.

14. Reliability

In the previous specifications relative to telegraphic multiplexers, the concept of reliability was never introduced; specification 662 is therefore innovative in this respect also, having set, as the reliability target, 2 breakdowns per 100 channels per year. Because of the lack of previous experience, reference was made, in the fixing of this limit, to the objectives proposed in the standards for PCM telephonic multiplexing, with a higher limit fixed because of the greater heat dissipation that occurs in telegraph equipment as well as the fact that a new multiplexer concept is involved.

15. Conclusions

To refer back to what was said in the introduction, the most immediate advantage that can be drawn from use of TDM multiplexing is the greater exploitation of the voice support channel, with the resulting greater availability of telex trunk circuits. Quality of service will increase also, because of the absence of distortions, presumably greater reliability and the reduced maintenance requirement.

In addition, use of the equipment for tying distant users into the commutation center (by means of baseband MODEM's) is viewed with great interest by the PT administration, and insertion of the multiplexer into the New Data Network (NRD) is being planned with equal interest.

In January 1979, at the end of a long series of laboratory tests, the Higher Institute of Posts and Telecommunications approved the TDM multiplexer made by the FATME company and corresponding to specification 662. At present (July 1979), the equipment made by the GTE and by TELETTRA is in an advanced stage of approval testing. Field tests aimed at evaluating their behavior as regards telex signalling have also been carried out with the FATME and GTE multiplexers. An effective connection using two FATME apparatuses is operative in a bundle of 46 trunk lines between the telex exchanges of Roma-Eur and Napoli.

It is expected that a limited number of approved apparatuses will be placed in service in the Italian telex network by the end of the year.

This will make it possible to acquire precise experience on the behavior of the equipment under operating conditions and will permit a gradual impact with the new philosophy and technology used by the apparatuses.

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CSO: 5500

SATELLITE COMMUNICATIONS TO ELIMINATE SHORE TELEGRAPH NET

Oslo AFTENPOSTEN in Norwegian 22 Oct 80 p 4

[Article by Rolf L. Larsen: "Revolutionary Emergency Communications at Sea; Satellite In, Morse Code Sender Out"]

[Text] A new radio system based on satellite communications is under development and will revolutionize emergency and safety communications at sea. It is the UN's maritime organization--IMCO--which is now working on making Morse telegraphy completely superfluous. The system will probably imply that today's radio telegraphers must be retrained to, for one thing, also sail as mates aboard a ship in overseas voyages. The system will be completely developed in 1990. It will also mean the establishment of a net of rescue stations on a global basis and the cutback of personnel at existing shore radio stations.

The rescue stations will be responsible for rescue operations in various waters. The main rescue station at Sola will probably be included in the global rescue network which will be connected to the new radio system.

Three geostationary satellites in orbit at an altitude of 36,000 km above the globe will be the sender in the new communications system. All ships on overseas voyages will thereby have satellite communications systems installed on board. In addition to this equipment, VHF radio telephony, medium-frequency and shortwave radio communications equipment will be required.

"By means of this new radio system it is possible to 'break through' to any ship whatever participating in the system. You see, each ship gets assigned a number. It will also not be necessary to have required steady monitoring duty on emergency channels at sea. This, you see, will be looked after automatically," Consultant Bernt Hauge Duborgh at the Norwegian Shipowners Federation tells AFTENPOSTEN. Duborgh is a member of the Norwegian delegation which has just discussed further development of the radio system in London. He is on IMCO's radio committee.

Duborgh relates that the radio committee has worked on the matter for 3 years. About 30 nations are represented in the radio committee, which has now discussed the matter for 2 weeks.

"We have reached agreement on the most important technical questions concerning establishment of a system like this. The radio committee concluded, for one thing, that telegraphy is not to be included in the new marine communications system.

It is rapid technological advances, in satellite communications, for example, which now have made telegraphy superfluous."

Does this mean that the radio telegraphists in the world's merchant fleet must come ashore when the system is put into service in 1990?

"No, in no way. But it does mean the retraining of both those aboard and the telegraphists who in years to come will be trained at maritime schools. The aim in the future is to have one officer on board who is responsible for all the electronic equipment. By the 1990's it is possible that this job will be a combination of a mate's position and that of an on-board communications man. The majority of the electronic equipment which is being developed now will be based on modules. Technology has become so advanced that instead of training people to repair the equipment the desire is to construct a modular system which can quickly replace defective parts."

What will happen if a ship is in distress? How will the future radio communications system be able to be used then?

"A condition for putting the system into service is the establishment of rescue stations on a global basis which will be connected to the system. This was decided at the 'Search and Rescue at Sea' international convention in 1979. In a distress situation it is possible by pressing a distress button on board to transmit automatically a distress signal with the necessary information to the nearest earth satellite station."

"Such a distress signal can be sent by satellite in seconds and it will be able to contain, for example, the name and nationality of the ship and the position it is at. The earth station immediately alerts the rescue station which has responsibility for the waters in question. A similar alert can also be sounded over the conventional radio equipment on board so that it is possible simultaneously with an automatic distress signal to give shore stations and ships in nearby waters a message that help is needed," says Duborgh.

According to AFTENPOSTEN's understanding, the U.S. Coast Guard is preparing the development of an alert system for distress bearing transmitters. If a ship must be abandoned so quickly that it is not possible to press the distress buttons, it is possible to alert the rescue station by activating a distress bearing transmitter which immediately sends a "distress report" by satellite.

Norway has contributed to a great extent to the development of the new radio system through a research project on marine communications. Here it has been with representatives from authorities and employer and employee organizations. The project was started under the direction of the Norwegian Natural Sciences Research Council, and the Norwegian Navigation Research Institute (NSFI) is the leader of the project.

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CSO: 5500 END

JPRS 76887

26 November 1980

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 140

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JPRS 76887

26 November 1980

WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 140

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NIGER SIGNS TELECOMMUNICATION PACTS WITH FIRMS

Niamey LE SAHEL in French 7 Oct 80 p 5

[NAP report: "Niger Signs Contracts With French Companies"]

[Text] Major contracts related to the building of a big satellite telecommunications network have been signed between Niger and French companies.

The network, which will be managed by the Niger Office of Posts and Telecommunications (OPT) will be built by Thomson/CSF and Telspace (an economic interest group of the Thomson/CSF and CIT/Alcatel).

The general study had been signed to Sofrecom [French Company for the Study and Development of Telecommunications Equipment] in cooperation with Tele-Diffusion de France and France-Cables Radio.

The network will be delivered "key in hand." The bulk of the program must be completed between March and September 1981--a record time, as has been noted--to insure the implementation of such a major project whose total budget would be 13.8 billion CFA francs.

Linking Poorly Served Areas

After Zaire's Reszatelasat, to be completed at the end of this year, this will be the second biggest integrated African telecommunications and television network whose transmissions will be achieved through a French-built satellite.

The Niger network, whose purpose is to improve international telecommunications services and to establish communications with still poorly served areas, will include the following equipment:

A ground station of A standard (a 32.5 meter antenna diameter), linked with the Intelsat satellite over the Atlantic Ocean; four national ground stations with 11.80 meter antennas located in Agadez, Dima, Bilma and Diffa;

A 275 kilometer Hertzian cable linking Agadez with Arlit with extensions to various mining works;

A CP400 telephone exchange which will be built in Arlit with extensions reaching the new International Transit Center;

Four television broadcasting stations in Agadez, Arlit, Bilma and Diffa and a station in Ingal.

The contract equally calls for the construction of technical premises and housing facilities.

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SUPPORT FOR ESA LAUNCHINGS PLANNED

Sydney THE SYDNEY MORNING HERALD in English 5 Sep 80 p 10

[Text] Canberra--Australia's Overseas Telecommunications Commission (OTC) is to play a key technical support role in the European Space Agency's (ESA) satellite launching program.

The ESA has awarded OTC a five-year contract worth more than $2 million for the installation, maintenance and operation of VHF tracking and monitoring equipment at OTC's earth station complex at Carnarvon, Western Australia.

This follows the signing of a formal agreement by the European Space Agency and the Australian Government's cooperating agency for the project--the Department of Science and the Environment. Under the terms of the contract, OTC will participate in a cooperative space vehicle tracking program initially involving two satellites--Meteosat II and Apple--both of which are planned to be launched in February, 1981, OTC says.

Both satellites will be housed together in the Ariane rocket that will blast off from the ESA rocket site at Kolurou in French Guyana.

While earth stations in Belgium, Kenya and Ascension Island will also be assisting with technical support for Meteosat II post-launching operations, only Carnarvon and the ESA facility in French Guyana will be providing tracking and monitoring functions in the VHF band for both satellites.

The special VHF equipment to be used for the tracking procedures has been installed and tested by OTC at Carnarvon in readiness for the Ariane launch.

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BRIEFS

PHONE SYSTEM FROM SWEDEN--L. M. Ericsson has received a new large order worth 152 million crowns from Tunisia. The computerized telephone system, AXE, has thus been chosen by the telephone administrations of 24 countries. The actual Tunisian order includes delivery and installation of AXE equipment to telephone stations in the area around the capital of Tunis and in the industrial zone of Bizerte in the northern part of the country. The deliveries will take place over the next 3 years. The new technology further includes extensive training of Tunisian personnel both in Sweden and in Tunisia. This year, the Tunisian telephone administration has placed orders with L. M. Ericsson amounting to nearly 300 million crowns. [Text] [Stockholm DAGENS NYHETER in Swedish 3 Oct 80 p 36] 11949

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AUSTRALIA

DELEGATE TO UNESCO ENDORSED MACBRIDE REPORT

Sydney THE SYDNEY MORNING HERALD in English 4 Oct 80 p 27

[Text] Belgrade, Friday.--Australia has declared its support for the main recommendations of the much-discussed MacBride report on communications problems, despite some "strong reservations."

At the general conference of UNESCO yesterday, the leader of the Australian delegation, Professor R. Slatyer, said Australia supported the report's "overall thrust towards the democratisation of communications."

But the country had strong reservations about some of the recommendations and passages, he said.

He endorsed the commission's recommendations that "for three to be the fullest and freest flow of information between and within countries, there should be a variety of sources of information and free access to these sources."

He also endorsed the commission's recommendations that:

Censorship, or any arbitrary control of information flow, reduces the credibility of the media and should be abolished; and

No normative action be taken regarding the responsibility and protection of journalists in the exercise of their profession.

"We believe that the time has come when we should set aside basic differences in outlook and practice, and instead shift our attention to the important problems of communications development on which we are all in substantial agreement," Professor Slatyer said.

He gave Australia's support to the establishment of an intergovernmental program for the development of communications, under the auspices of UNESCO.

He said the proposed inter-governmental council should undertake specific tasks such as identifying practical problems which the program should tackle an dencourage individual countries, individuals and institutions to commit themselves to the program to ensure its success.

Professor Slatyer also declared that UNESCO had an "important role" in following up the plan of action adopted at the UN conference on the application of science and technology to development.

He said his delegation was pleased that UNESCO's draft program and budget for 1981-83 contained eight major projects, six based on existing inter-governmental science programs and two on aspects of existing regional science networks.

"These projects constitute the most effective formulae yet devised by UNESCO--to facilitate international science cooperation to generate and catalyse bilateral and regional resources, both human and financial, and to progressively strengthen the endogenous capability of developing countries in science and technology," he said.

CSO: 5500

NATIONAL FIRM MANUFACTURES UNIQUE TRANSDUCERS

Canberra THE FINANCIAL AUSTRALIAN in English 22 Sep 80 p 4

[Text] Many people are surprised to learn that the basis of the modern electronics revolution was the advance in ceramic technology.

The breakthrough came in the formulation and processing of single crystal and polycrystalline materials.

Ceramics are the materials of ferrite memory cores in computers, transistors, integrated circuit chips, substrates, chip capacitors, film resistors, and optoelectronic devices.

One of the major steps in this electronic ceramic revolution occurred some 40 years ago with the discovery that a synthetic material, barium titanate, very similar in structure to natural perovskite, exhibited exceptional properties as a capacitor.

The special feature of barium titanate which causes the high dielectric capability is its electrical polarity. Simply, this means that the crystal is equally stable in two mirror-imaged patterns.

These two stable states can alternate and this enables the material to be piezoelectric--that is, a material which can convert mechanical to electrical energy and vice versa.

Signal

When a shock is applied to a crystal of the material, the titanium atom can be displaced, releasing an electrical charge when it returns to its original site.

Equally, when an electrical signal is applied to the crystal, the atom can be displaced and this provides a small mechanical signal. Depending on the shape and size of the ceramic or crystal and on certain processing characteristics, it can emit sound waves over different bands.

There are many uses of these materials, but possibly the greatest advances have been made in underwater applications. The submarine has only two underwater senses, hearing and touch, and the use of the latter is a sure way to disaster.

In the same way that radar waves serve as a beacon and guide for aircraft at night and in cloud, sonar waves guide the submarine.

In nearly all applications, a number of elements are combined to form an array to obtain direction and depth of field.

The most recent developments include the spherical transducer consisting of two hemispheres. This transducer has advantages of being predominantly insensitive to depth, omni-directional and can be used as a transmitter and receiver.

As the demands for improved sonar sensitivity and signal-to-noise ratio have arisen, so the developments in piezoelectric elements have advanced from the traditional barium titanate-based ceramic compositions to the wide range of composition based on lead zirconate titanate.

Unique patented formulations using three-phase compositions including lead nickel niobate have been developed by Plessey (Australia).

Electronic ceramics and ceramic transducers are manufactured by Plessey at its Meadowbank site.

This is the only established ceramic transducer manufacturing unit in the southern hemisphere.

The production and development facilities were initiated as a joint project with the Department of Defence to take advantage of the local experience in development and manufacture of electronic ceramic materials.

The joint aim is to build a sound industry and support the local expertise in this field, particularly because of the strategic importance of sonar to Australia.

CSO: 5500

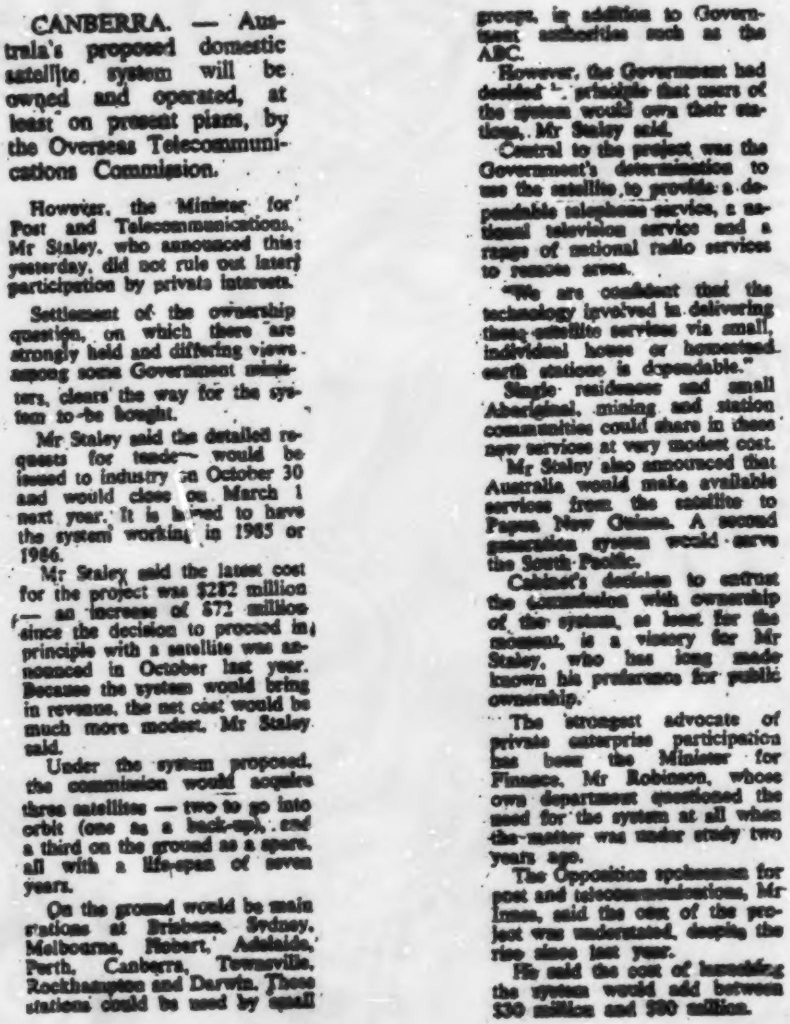
PLANNING CONTINUES FOR DOMESTIC SATELLITE

Communications Minister's Announcement

Sydney THE SYDNEY MORNING HERALD in English 19 Sep 80 p 3

[Article by Scott Milson: "OTC Granted Ownership of Satellite"]

[Text]



CANBERRA. — Australia's proposed domestic satellite system will be owned and operated, at least on present plans, by the Overseas Telecommunications Commission.

However, the Minister for Post and Telecommunications, Mr Staley, who announced this yesterday, did not rule out later participation by private interests.

Settlement of the ownership question, on which there are strongly held and differing views among some Government ministers, clears the way for the system to be bought.

Mr Staley said the detailed requests for tenders would be issued to industry on October 30 and would close on March 1 next year. It is hoped to have the system working in 1985 or 1986.

Mr Staley said the latest cost for the project was $282 million — an increase of $72 million since the decision to proceed in principle with a satellite was announced in October last year. Because the system would bring in revenue, the net cost would be much more modest, Mr Staley said.

Under the system proposed, the commission would acquire three satellites — two to go into orbit (one as a back-up), and a third on the ground as a spare, all with a life-span of seven years.

On the ground would be main stations at Brisbane, Sydney, Melbourne, Hobart, Adelaide, Perth, Canberra, Townsville, Rockhampton and Darwin. These stations could be used by small groups, in addition to Government authorities such as the ABC.

However, the Government had decided in principle that users of the system would own their stations, Mr Staley said.

Central to the project was the Government's determination to use the satellite to provide a dependable telephone service, a national television service and a range of national radio services to remote areas.

"We are confident that the technology involved in delivering these satellite services via small, individual house or homestead earth stations is dependable."

Single residences and small Aboriginal, mining and station communities could share in these new services at very modest cost.

Mr Staley also announced that Australia would make available services from the satellite to Papua New Guinea. A second generation system would serve the South Pacific.

Cabinet's decision to entrust the commission with ownership of the system, at least for the moment, is a victory for Mr Staley, who has long made known his preference for public ownership.

The strongest advocate of private enterprise participation has been the Minister for Finance, Mr Robinson, whose own department questioned the need for the system at all when the matter was under study two years ago.

The Opposition spokesman for post and telecommunications, Mr Innes, said the cost of the project was understated, despite the rise since last year.

He said the cost of launching the system would add between $30 million and $80 million.

U.S. Shuttle Considered

Canberra THE AUSTRALIAN in English 22 Sep 80 p 3

[Article by Andrew Fowler: "OTC Hopes To Have TV Satellite by 1985"]

[Text] The troubled US space shuttle Enterprise is being considered by the Overseas Telecommunications Commission as the launch vehicle for Australia's domestic satellite.

OTC has already made a provisional booking with the US National Aeronautics and Space Administration for the satellite to be put into orbit in 1985.

Mr Bill Schmidt, OTC general manager, said on Friday, the satellite would cost between $10 million and $30 million to launch.

He said the commission was examining other alternatives, including the French launch system Aerienne but the space shuttle which would be launched from Cape Canaveral, "is by far the cheapest."

The $282 million satellite program is designed to provide remote regions with a national television and radio services and a dependable telephone system.

The space shuttle has been beset with problems but NASA is confident they will all be settled by 1985 at the earliest, which would make Australia one of the first users.

The Australian satellite would ride in a special compartment in the centre of the shuttle, an aeroplane-like craft about the size of a DC9 mounted on a giant cigar-shaped aluminum tank, which carries 800 tonnes of liquid hydrogen and liquid oxygen fuel for the huge rocket engines.

Two minutes after take-off at an altitude of 45 km, booster engines will burn out and drop off into the sea. They will be retrieved and reused.

The shuttle accelerates to 25,000 km/h as it burns off the last of the hydrogen-oxygen mixture and starts maneouvering into orbit 250km to 400km above the earth.

It is here that the satellite will be slipped into orbit as the shuttle begins to slow and heads earthwards.

The craft should then land like a normal plane, to be used again.

Re-entry has caused some of the major problems for the shuttle.

CSO: 5500

NEWLY DESIGNED TWO-WAY ANTENNA INSTALLED IN SYDNEY

Canberra THE FINANCIAL AUSTRALIAN in English 15 Sep 80 p 5

[Text] ON a clear day you can almost see forever from the roof of a Sydney skyscraper.

That makes such a location perfect for two-way radio communication.

Good sites for two-way radio antennae are at a premium in Sydney, yet so many tall buildings and hill-tops around the city are festooned with ugly systems.

Many are also inefficient because there is often a lack of effective electrical isolation.

Each base station affects the operation of others, resulting in a deterioration of performance and shorter ranges.

Antenna Engineering Australia Pty Ltd feels it has overcome both problems.

Interest in its newly-designed antenna, which tops the 68-floor MLC Centre in Sydney's Martin Place, has already come from Europe and the US.

The first of four antenna systems, which will ultimately enable up to 70 two-way radio channels to operate from the MLC building, has been installed.

THE first special antenna system on top of the MLC centre

CSO: 5500

BRIEFS

LONG-DISTANCE RADAR--Queensland University physicists are working on an over-the-horizon radar system with applications for defence. The scientists are studying the meteorology of the ionosphere, 100 to 300 km above the earth. Over-the-horizon radar extends the range of normal radar beyond line of sight by bouncing very high frequency radio signals from the ionosphere. Professor J.D. Whitehead, of the university's physics department, said yesterday the facts that the ionosphere varied in its distance from earth and was tilted were among problems to be overcome. Aircraft on radar could be seen in the wrong position. The surface from which the radio signals were reflected was not smooth, but corrugated. If the surface variations could be observed the observations would add much to what was known about the ionosphere, Professor Whitehead said. Most of the experimental work was done at the university's research station at Bribie Island, he said. Equipment there included an antenna in the form of a cross with arms about a kilometre long. Professor Whitehead said one arm was used in transmitting and the other for receiving signals. [Text] [Brisbane THE COURIER-MAIL in English 17 Sep 80 p 12]

SYDNEY COMPUTER CONFERENCE--Sydney will be the venue for the 1984 International Conference on Computer Communications--the first time the biennial conference has been scheduled for the Southern Hemisphere. The decision was announced last week by the board of governors of the International Council for Computer Communications (ICCC). The board accepted a bid by the joint principal sponsors, the Overseas Telecommunications Commission (OTC) and Telecom Australia, to host the conference which provides a leading interna- [as published] This year's conference will be held in the US and the 1982 conference is scheduled for London. OTC said more than 1000 delegates from all over the world were expected to attend the Sydney conference, which would come to Australia at an appropriate stage of the nation's communications development. "By 1984 packet switching techniques will be benefitting customers using both OTC and Telecom communications systems," OTC said. As 1984 will be the "Orwellian" year, the theme of the conference will be "What Lies Ahead." Emphasis will also be placed on communications developments in the Asian/Pacific region and on the interconnection of international telecommunications networks. The OTC/Telecom bid for the conference was supported by the Federal and NSW Governments, the Sydney City Council and the Australian Computer Society. [Excerpt] [Canberra THE AUSTRALIAN in English 8 Sep 80 p 12]

NEW TELEX SYSTEM--The cost of sending messages overseas will be reduced substantially when a worldwide, 24-hour telegram and Telex system is introduced this year. Details of the new service, to be called Intertel, were disclosed yesterday by the Overseas Telecommunications Commission (OTC). The system will be launched when public message bureau services are installed at the OTC's major offices in Sydney, Melbourne and Brisbane. The OTC believes the service could spell the end of overseas telegrams, because it will make the cheaper Telex system available to small businesses and individuals. The commission's marketing director, Mr Don Cox, said yesterday the system would be operated in conjunction with 200 countries. [Text] [Canberra THE AUSTRALIAN in English 4 Sep 80 p 3]

NEW LASER INSTRUMENT--Defence scientists have developed a new laser instrument which could revolutionise submarine detection. An official statement from the Defence Research Centre in Salisbury, South Australia, yesterday announced "a new airborne depth sounder." But a defence spokesman acknowledged that the new device "could be used in submarine detection." Australia's Orion aircraft fleet is already equipped with a battery of sophisticated detection equipment but the spokesman indicated that the new device was capable of augmenting its capabilities. It could also be taken up by other countries. The new laser depth sounder is called WRELADS 11. It has been installed in a RAAF Dakota aircraft and evaluation trials are in progress over South Australian waters. [By Peter Ward] [Excerpts] [Canberra THE AUSTRALIAN in English 18 Sep 80 p 1]

TIME ZONE HARDWARE--Sony (Australia) Pty Ltd has announced the world's first operational time zone digital delay FM broadcasting system. The system, which has been installed at the Australian ABC FM Service, consists of PCM-1600 Digital Audio Processors, BVU-200A U-Matic Videocassettes recorders, and other related items developed by Sony Corporation. Born of close technical cooperation between Sony Australia and the ABC Engineering Division, the new system makes it possible for the first time in the world to record and play back high-quality digital audio sound 24 hours a day, seven days a week, in a national transmission. The ABC FM Service has become a national network in Australia. This system incorporates the latest technological advancement pioneered by Sony--the application of Pulse Code Modulation (PCM) to audio technology, which by-passes all the limitations inherent in conventional analog recording systems--and can be programmed to overcome the time problems encountered by broadcasters in countries with multi-time zones. Programs originating from the ABC FM Centre in Adelaide for nationwide transmission are recorded in Adelaide for automatic play back to Perth two or three hours later, depending on the summer time difference. [Text] [Canberra THE FINANCIAL AUSTRALIAN in English 29 Sep 80 p 7]

TORRES STRAIT TELEPHONE SERVICE--Yam Island, Friday--A telephone service for Torres Strait was officially opened today. The Federal Minister for Science and the Environment, Mr Thompson, performed the opening ceremony on Yam Island, where the service is based. The Moa, Yam, Saibai and Yorke Island groups had been provided with "pay as you use" red phones under a project financed by the Federal Department of Aboriginal Affairs. [Text] [Sydney THE SYDNEY MORNING HERALD in English 6 Sep 80 p 27]

TANTALUM DISCOVERY--A large reserve of the metal tantalum has been found in Western Australia. Tantalum is a vital metal in the aerospace, electronics and computer industries. The (Green Bushes) Tin Mining Company says the reserve is the largest known in the world and of the highest grade. It is estimated to be worth more than $2,000 million at current market prices. The company says it will produce nearly 300 tons of tantalum a year and negotiations are already underway for long-term export contracts to America and Western Europe. [Text] [Melbourne Overseas Service in English 1130 GMT 16 Oct 80 OW]

NEW FM STATION--Melbourne's western suburbs will have their FM radio station this weekend when Western Radio Broadcasters make a 72-hour test transmission. The broadcast, to be made on a frequency of 106.5 mHz, will be heard between noon on Friday 17 October and noon on Monday 20 October from the station which is using 3WRB-FM as its callsign. It is expected that the transmission, at 10 watts, will cover all of the western suburbs and may extend as far as 50 kilometres to include places as far away as Frankston, Sorrento, Melton and Geelong. [Excerpt] [Melbourne THE AGE in English 16 Oct 80 Supp., p 4]

TELEVISION FOR NORTH--Canberra: Three remote centres in the North of WA will receive ABC television from September 28. The Minister for Post and Telecommunications, Mr Staley said yesterday that Exmouth, Broome and Onslow would receive ABC service through the international communications satellite, Intelsat IV. The satellite would also extend the national television service to Cooktown in Queensland and Walgett in NSW. Each station was designed to serve a local community through a low-power transmitter which would radiate signals on a normal VHF television channel. Viewers would be able to pick up the transmissions with an ordinary domestic television receiver and aerial. The Government had given approval to build 43 of the stations. [Text] [Perth THE WEST AUSTRALIAN in English 18 Sep 80 p 39]

CSO: 5500

FRG AIDS BANGLADESH IN COMMUNICATIONS GROWTH

Dacca THE BANGLADESH OBSERVER in English 11 Oct 80 p 1

[Text] Bangladesh will receive 6.3 million Deutche Mark (Taka 6.2 crores) from the Federal Republic of Germany for two projects for development of her telephone services under separate bilateral technical cooperation agreements signed in Dacca on Friday between the two countries, reports BSS.

With this the total West German assistance to telephone sector rises to 25.8 million Dutche Mark (Taka 21.7 crore)

Under one of the project advisers to Bangladesh Telegraph and Telephone Board a group of German experts has been assisting the T and T Board mainly with the planning of cable network and the planning, operation and maintenance of telephone exchanges.

In the new project phase, the fields of cooperation will also comprise traffic measurement and assistance to the planning cell of the Ministry of post, telegraph and telephones.

The project is complemented by commodity assistance under financial cooperation.

Under another project, advisers to Telephone Shilpa Sangtha another group of German experts have also been assisting the management of TSS in general management the management of production and in the installation of telephone exchanges. Under the new agreement quality control is included in the scope of cooperation. The provision of short term expertise to Bangladesh cable shilpa Khulna will be continued as follow up of an earlier cooperation there.

The TSS is also benefitting from financial cooperation as well import of raw materials and unfinished products financed under another German grant.

The agreements were signed by Mr. A.M. Ahsanullah, Secretary of Ministry of Post and Telegraphs and Dr Baron Von Marschau, FRG Ambassador to Bangladesh on behalf of their respective countries.

CSO: 5500

IMPORT OF TELECOM EQUIPMENT STILL NECESSARY

Calcutta THE STATESMAN in English 21 Oct 80 p 9

[Text] New Delhi, Oct. 20.--Despite vigorous efforts to accelerate indigenous production of telecommunication equipment, India will have to continue substantial imports for quite some time.

According to the plan drawn up by the Posts and Telegraphs Department, it will need 2.36 million lines of local exchange automatic switching equipment during 1980-85 and 5.96 million lines during 1985-90.

But the Indian Telephone Industries will be able to supply from existing switching factories only 1.01 million lines during 1980-85 and 1.07 million during 1985-90.

To bridge this gap, it has been proposed to increase production of crossbar equipment at Rae Bereli by 200,000 lines and establish two factories to produce 500,000 lines of electronic switching equipment annually during the next 10 years.

But supplies from these units are likely to arrive only gradually during 1985-90 and hence the need to depend on imports.

In the past three years, India imported between Rs 30 crores and Rs 43 crores worth of telecommunications equipment of various types.

Automatic switching equipment, which is a basic ingredient of an automatic telephone exchange, is now produced at the Indian Telephone Industries, Bangalore, and the Rae Bareli factory.

The capacity at ITI is 150,000 lines of switching equipment and 600,000 lines of crossbar switching equipment. The Rae Bareli factory is being set up with an installed capacity of 100,000 lines of switching equipment a year. But owing to certain difficulties in getting raw material, only about 20,000 lines of equipment were produced in 1979-80 and full production is not expected till 1982-83.

Till the end of March, a total of 7,429 telephone exchanges were working in the country, 6,147 of them automatic and 1,282 manual, with capacities of 1.99 million and 340,000 lines, respectively. Allowing for a modest growth rate of 10%, the existing automatic exchanges alone would require an additional 200,000 lines of automatic switching equipment.

The imports that have been made to supplement the production from ITI are used mainly in large-sized exchanges in major cities.

Thus, at the present rate, there is no prospect of replacing the manual exchanges by automatic exchanges till 1984-85. It is felt that some of the smaller manual exchanges of 100 lines capacity should be replaced by manual ones to allow for new connexions.

CSO: 5500

BRIEFS

RADIO RECEPTION INTERFERENCE--Some of the high voltage transmission lines in the country emit higher than permitted level of radiation that can interfere with radio reception, according to a survey by the Central Research Institute (CPRI) in Bangalore, reports PTI. The survey, conducted using CPRI's mobile radio interference laboratory found that some of the 220-KV and 230-KV lines have more interference levels than permitted internationally. The radio interference due to the 400-KV Obra-Lucknow line is well within limits while that of the 400-KV Dehar-Panipat line is higher than the Obra-Lucknow line, according to the CPRI study by Dr V B Ram Mohan and Dr M S Lalli. Interference with radio communication is caused by leakage of electricity from the high electric field region surrounding the transmission lines. Dr Ram Mohan told PTI that radio interference is one of the important considerations in the design of high voltage transmission lines. He said that CPRI has launched a national survey to collect data on radio noise emission from transmission lines "to arrive at a criteria to limit the interference levels." At present no such limits exist in the country while many countries have established standards. [Text] [New Delhi PATRIOT in English 11 Oct 80 p 9]

CSO: 5500

BRIEFS

N-2 ROCKET CARRIES SATELLITE--Tsukuba Gakuen, Ibaraki Pref, 12 Nov (KYODO)--The National Space Development Agency put the experimental satellite, to be carried by the newly developed N-2 rocket, on public display Wednesday at its Tsukuba Space Center here. The 2.8-meter long ETS-4 satellite weighs 638 kilograms, about three times heavier than a satellite put into orbit by the N rocket, an agency spokesman said. He said the agency is scheduled to launch the ETS-4 satellite on February 4 to learn the performance of the N-2 rocket and the effects of its vibrations and impacts on the satellite when lifted off. The experiment will last about three months, the spokesman added. [Text] [OW121057 Tokyo KYODO in English 1021 GMT 12 Nov 80]

RESOURCES SATELLITE PLANNED--Tokyo, 10 Nov (KYODO)--The Ministry of International Trade and Industry (MITI) plans to launch a natural resources exploration satellite about 1986 at an estimated cost of yen 80 billion (about $380 million), MITI sources said Monday. The sources said the projected satellite would be launched into a 560-kilometer earth orbit to conduct exploration from space for natural resources on the earth, such as oil, uranium and iron ore. According to the sources, MITI will seek a fiscal 1981 appropriation of yen 2.1 billion for research and development of the satellite and equipment to be carried by the satellite. [Text] [OW100116 Tokyo KYODO in English 0107 GMT 10 Nov 80]

'KYODO-OPECNA' AGREEMENT--Tokyo, 7 Nov (KYODO)--KYODO News Service Friday announced the signing of a news and photo exchange agreement with the Vienna-based OPEC News Agency (OPECNA). KYODO is the first Japanese mass media which concluded such a bilateral news exchange accord with the newly formed OPECNA financed by the 13-nation organization of Petroleum Exporting Countries (OPEC). OPECNA started distributing its English news to KYODO and other recipients throughout the world on 3 November, and KYODO plans shortly to begin sending its 8,000-word daily English-language news service to OPECNA in Vienna. Under the agreement, OPECNA grants KYODO the right to receive and distribute its 1,500-word-a-day news service in Japan. KYODO gives OPECNA the right to receive and distribute its international general news in the OPEC member countries. The agreement allows both parties to request each other for special news stories on a reciprocal basis. The KYODO-OPECNA agreement is the 39th such news exchange accord KYODO has so far signed with foreign news agencies. In recent years, KYODO has signed news exchange agreements with the Iraqi News Agency (INA), the United Arab Emirates News Agency (WAM) and Syrian Arab News Agency (SANA). [Text] [OW070437 Tokyo KYODO in English 0429 GMT 7 Nov 80]

CSO: 5500

BRIEFS

PROPOSED RADIO STATIONS—Islamabad, Nov 3—Brisk preparations are under way to open three more radio stations in the country before the end of this year. It was officially learnt here yesterday. The new radio stations will start working in Dera Ismail Khan, NWFP, Turbat and Khudar, in Baluchistan in near future. All the technical and programme staff of the Dera Ismail Khan Radio Station have reached the newly-built station and they are busy in making arrangements for the inauguration. Station Director, Mr M.Y. Bangush, who has been transferred from Muzaffarabad, took charge of the station. This 10 kilowatt medium-wave radio station's transmissions will cover an area of 20114 square kilometers, and will benefit a population of 1.50 million. This is the second radio station being installed in North West Frontier Province. Most of the programmes of the station will be Pushto dialects common in local and surrounding areas. Other programmes will be in Sarayki and Urdu along with English programmes on the national network. [Text] [Karachi MORNING NEWS in English 4 Nov 80 p 3]

RADIO STARTS FM BROADCASTS--Islamabad, Oct. 28--Radio Pakistan has started F.M. broadcasts to provide its listeners with programmes in excellent sound, free from any kind of noise including the atmospheric disturbance, according to a PBC Press release. The F.M. Service can be heard by the people of Rawalpindi/Islamabad on the Frequencies 104, 105 and 107 MHz on radio sets fitted with F.M. Band. The PBC has established its F.M. transmitter in Murree which can take radio voice up to 100 Km, thus overcoming the inherent disadvantage of limited range of the F.M. Band. The F.M. Service has also been made available to the listeners in Karachi on 97 and 106 KHz. The listeners in Quetta can enjoy F.M. Service on 105 and 106.5 MHz. [Text] [Islamabad THE MUSLIM in English 29 Oct 80 p 3]

CSO: 5500

BRIEFS

SOLAR FLARES AFFECT COMMUNICATIONS--Kunming, 8 Nov (XINHUA)--The Yunnan observatory reports sighting a solar flare of third degree yesterday morning. The flare, located near the center of the solar disc, commenced at 9:50 a.m. and lasted until 11:10 a.m., astronomers at the observatory said. The flare interfered with the earth's ionosphere, causing a break in shortwave communications in the Kunming area for about an hour and a half. It will continue to cause geomagnetic disturbances for a couple of days, they forecast. Two previous flares were reported in early September and in October by the Beijing observatory. [Text] [OW080709 Beijing XINHUA in English 0700 GMT 8 Nov 80]

JILIN TV RELAY STATION--Shuangliao County, Jilin Province, recently built a television relay station equipped with a 100-meter-high antenna. All other relevant installations will be completed soon. Upon completion, this station will improve the reception of television programs in Shuangliao County and all neighboring communes in the suburban areas. [Changchun Jilin Provincial Service in Mandarin 2200 GMT 31 Oct 80 SK]

CSO: 5500

SATELLITES LAUNCHED, MARK NATION'S ANNIVERSARY

AU032007 Sofia RABOTNICHESKO DELO in Bulgarian 31 Oct 80 pp 1, 8

[Text] United Nations, 30 Oct (BTA)--According to the "Bulgaria-1,300" cosmic project, Bulgaria will launch two satellites, which will mark the 1,300th anniversary of the Bulgarian state.

This was announced by Todor Boyadzhiev, Bulgarian representative, at a session of the UN Special Political Committee which is now discussing matters pertaining to the peaceful utilization of space.

Todor Boyadzhiev briefed the committee on the strenuous work of the Bulgarian scientists on preparing the "Bulgaria-1,300" cosmic project. He also briefed the committee on the flight of the first Bulgarian cosmonaut and on the Bulgarian equipment utilized in various space flights, as well as on the 27 Bulgarian physical, medical-biological, technological and other experiments implemented on board of the "Salyut-Soyuz" scientific research complex.

Taking a stand on the questions discussed by the committee, the Bulgarian representative stressed our country's position that "It is high time to demonstrate the necessary political will, take under consideration the interests of all peoples--big and small, developed and developing--and find a realistic and correct solution of all matters which have not yet been solved." He stressed the great significance attributed by Bulgaria to the development of principles which guarantee the utilization of artificial satellites for direct television relays in the interest of peace, mutual understanding and cooperation among the peoples and states. "We cannot accept the attempts of some states--whatever form they may take--to impose their national conceptualism in the area of information," Todor Boyadzhiev stressed. He dwelled in detail on the remote exploration of earth through satellites, on defining the demilitarization of space, utilizing cosmic sources of nuclear energy, and on planning the second UN conference on researching and utilizing space for peaceful goals. There are still many essential differences in the approach to these matters, something which reflects the desire of some states to impose solutions to their unilateral benefit. "The consistent, principled and peaceful policy of the People's Republic of Bulgaria," stressed Boyadzhiev in conclusion, "aims at justly regulating the problems of the peaceful utilization and research of space, in the interest of world peace and security, and in the interest of cooperation, mutual benefit and firmly relations among states."

CSO: 5500

BRIEFS

NEW MICROWAVE SYSTEM--Armando Cabrera, chief of the national telecommunications enterprise in Oruro, disclosed that a direct communications system through microwave recently was inaugurated. This new system connects with the cities of Potosi, Sucre and Tarija. [La Paz EL DIARIO in Spanish 12 Oct 80 p 4 PY]

CSO: 5500

BRIEFS

SOLAR-POWERED MICROWAVE SYSTEM--An advanced telecommunications system will be put into operation in Dourado, Mato Grosso State, by a subsidiary of Telebras [Brazilian Telecommunications, Inc.]. This system will use solar energy to power the microwave link between the city of Ponta Pora and the other cities of Mato Grosso do Sul. [PY041221 Sao Paulo Radio Bandeirantes Network in Portuguese 1000 GMT 3 Nov 80]

NEW TV STATION--Communications minister Haroldo Correia de Mattos today signed a contract authorizing installation of the television station Natal Editora, Radio e Televisao Limited. This channel will be broadcast in the city of Vitoria, Espirito Santo State. [Brasilia Domestic Service in Portuguese 2200 GMT 21 Oct 80]

SUBMARINE CABLE TO U.S.--Communications minister Haroldo de Mattos today dedicated the submarine cable brus--which links Fortaleza with St. Thomas, the Virgin Islands--with a telephone call to Brazilian Ambassador Francisco Azeredo da Silveira. This cable, whose installation cost $60 million, will increase Brazil's telephone communications capacity with North America by 260 percent. Eventually, Brazil will be able to communicate with Puerto Rico, Canada, Venezuela and Colombia through St. Thomas. [PY251333 Brasilia Domestic Service in Portuguese 2200 GMT 24 Oct 80]

CSO: 5500

BRIEFS

SATELLITE PROJECT APPROVED--The conference of International Satellite Organisation (Intelsat), which concluded its discussion yesterday in Venice, approved a number of local and regional projects in the sphere of space telecommunications, including the Saudi satellite project for radio and television coverage. This was stated by chief of telegraph and telephone section in the Communications Ministry Haleem Fanous, who returned here today after attending the 10-day conference. He said the conference approved Algeria'e request for linkage to the satellite network of the Soviet Union and other Eastern bloc States and also selected a 11-member legal arbitration authority for Intelsat. [as published] The organisation will hold its next conference in Argentina in 1982. [Text] [Abu Dhabi EMIRATES NEWS in English 2 Nov 80 p 3]

RADIO PROJECT FUNDS--Minister for Information and Culture Ahmed bin Hamed today submitted a memorandum to the Secretary-General of Abu Dhabi Executive Council requesting the allocation of Dh. 200 million for boosting the radio transmission station at Al Dhabiya, so that it could operate on short and medium wavelengths, in accordance with the approval obtained from the Executive Council Chairman, the Crown Prince. He also sent another memorandum to Planning Minister Saeed Ghobash requesting the inclusion in the projects list import of equipment worth Dh. 500,000 for the information documentation centre. [Text] [Abu Dhabi EMIRATES NEWS in English 7 Nov 80 p 2]

CSO: 5500

BRIEFS

LOCAL PRODUCTION SILICON CHIPS--Silicon chips, which have revolutionised the world of electronics, are to be produced for the first time in South Africa by a new company. South African Micro Electronics System is owned 51 percent by the IDC and 49 percent by Siemens, the local 53 percent subsidiary of the West German Siemens SA. The facility is housed at Siemens' Koedoespoort factory at Pretoria, where some R12,5-million of plant and equipment has been installed. The announcement of the venture follows the remarks last February of Siemens chief executive Wilfried Wentges in the company's annual report. He told shareholders that the group's efforts to have telecommunications and "PT Office agreements with other contractors backed by locally-made micro-electronic components are progressing well." The IDC said yesterday that a technical cooperation agreement had been signed with Siemens AG, though it's expected that other expertise will be bought elsewhere. It added that the PO's change from electromechanical to electronic signal switching will produce a substantial rise in the use of integrated circuits. The PO had asked suppliers to use only components fully or partly processed by the new company. The components are also widely used by the world's defence and other industries. [Text] [Capetown THE CAPE TIMES in English 24 Oct 80 p 18]

CSO: 5500

MPOMA EARTH SATELLITE STATION TO BECOME OPERATIONAL

Kampala WEEKLY TOPIC in English 5 Sep 80 pp 6, 7

[Article by Buzigi-Kikonyogo]

[Text] UGANDA's ever growing ambitions in satellite communications will soon become a reality when her own Earth Satellite Station at Mpoma becomes operational late this year. It means among other things, that a subscriber would be able to dial London, Paris, New York or elsewhere direct from his home or office.

Mpoma Earth Satellite Station, built in defiance of Idi Amin's wishes, will link Uganda direct to over 105 member countries of INTELSAT via INTELSAT V satellite above the Atlantic Ocean.

AMIN BLUFFED

Before the breakup of the East African Community in 1976, Uganda, like the rest of East Africa, was linked to the outside world through Longonot Earth Satellite Station in Kenya. However, this overgrowing dependency on Longonot was a liability to Uganda and this prompted her to carry out surveys in 1972 for a possible link-up of her own.

This ambition was boosted even further when the Community broke up in 1976. KENEXTEL Company of Kenya took over the assets of the former E.A. External Telecommunication which were physically located in Kenya, making it even more difficult for Uganda to connect with the outside world.

But Amin became too ambitious over the whole plan. He called in some Americans and hurried plans were drawn up to build two separate satellites of Standard B at Ombaci in Arua and at Kololo Hill, Kampala. The whole plan, though carried out, proved futile. It was also contrary to the technical and professional standards of INTELSAT experts who carried out the earlier surveys and who had recommended a model A satellite at Mpoma, near Mukono.

The Uganda Posts and Telecommunication technical personnel could not do much about it, but to bluff Amin and to pretend to have bowed to his wishes. At that time, some other African countries were sold on the same plan. All went ahead to build the satellites, but most lived to regret later, none of these satellites is in operation now!

While work was going-on on both Arua and Kololo satellites, the U.P &T. secretly went ahead to build the Standard A satellite at Mpoma. Information on this project was top secret until Amin had gone and only this week was it made public when a group of journalists and the Minister of Power, Posts and Communication were taken to inspect the almost complete satellite station.

UGANDA JOINS INTELSAT

Uganda joined INTELSAT Organisation in 1977. INTELSAT is the 105 member country organisation that owns and operates the telecommunications satellites used by member countries all over the world for both international and domestic communications. The INTELSAT global satellite system comprises the space components made up of satellites owned by INTELSAT and the ground parts, consisting of the earth stations owned by telecommunication entities in the countries they are located.

By 30th April 1980 there were 10 operational satellites in space, at an altitude of about 35,780 Km (22,240 miles). INTELSAT world services are provided through a combination of INTELSAT IV-A and INTELSAT IV satellites over the Atlantic, Indian and Pacific Ocean regions. — With INTELSAT IV-A, 6,000 people can be connected to speak at the same time with two television channels operating. However, the new INTELSAT V on which Mpoma satellite is to be linked, and which starts operating this year, has circuits for 12,000 voices and two television channels.

THE LINK-UP

With the completion of Mpoma satellite station, Uganda is to be linked by telephone, telex, radio and television to over 100 countries all over the world. The disc can be tilted up and down while at the same time it rotates one degree per second, enabling it to track to within a fraction of a degree a satellite stationed in synchronous orbit. All messages, radio and television programmes therefore will be clearly monitored by the 32 metre diametre disc before being transmitted to Telephone House via Konge.

Although radio and television are occasional, Ugandans would be able to enjoy programmes from distant countries on special arrangement.

Manufacturing of the satellite equipment, its other components and installation is being done by Nippon Electric Company Limited (NEC) of Japan while the civil work is being undertaken by ROKO Construction Company.

The operation of the satellite is fully automated. The control room is provided with a video monitor to indicate faults and appropriate remedies. The fire-fighting equipment being installed is also automatically controlled. In case of fires, the fire-fighting apparatus automatically responds by spraying anti-fire gases. In case of a power failure, two automatic power generators of 300KV each have been installed. This set-up will prevent any noticeable break in communication by a person who might be talking to another.

FACE-LIFT AT TELEPHONE HOUSE

With the completion of Mpoma Satellite Station, a face-lift at Telephone House is inevitable. An automatic International Telephone Exchange (ITE) is soon to be installed. This scheme however was developed 4 years ago as a separate entity at Clement Hill. But up to now the building to house it is not ready, so the equipment is to be transferred to Telephone House ready for use when the satellite becomes operational.

Another change that will accompany the satellite is the Automatic Telex Exchange to be installed next month. This will offer telex facilities to 800 customers compared to the present 300. Combined with the International Telex Switching System, there will not be need to pass through Nairobi. Another facility to be introduced is the International Subscriber Dialling (ISD). A subscriber would be able to dial London, New York, Paris or elsewhere direct from his home or office. There will also be facilities for leased circuits. Subscribers with a large amount of traffic (such as businessmen) to a particular destination may acquire a telegraph circuit for a point to point communication, and he would use the circuit as and when he wishes.

THE BENEFITS

The total cost of the satellite and other related equipment at Telephone House and Nakasero Television Station is estimated to be 150 million shillings. But this money will be recovered in quite a very short period. Telex services alone are expected to generate about 5 million shillings a month, part of which will be in convertible currency. On its opening, it will offer 11 (eleven) circuits to London; USA, France, W. Germany six each and five to Italy. The total number of circuits at maximum capacity might reach 150 including transit facilities to other countries.

Training facilities to Ugandan engineers and technicians who would man the station are offered by NEC. The first batch is back from Japan and they are now assisting in the installation. There are plans to transfer equipment from Ombaci to Kampala where plans are underway to build an International Satellite School to cater for the whole of Africa. It is expected to be the first of its kind in Africa. It was also learnt that a grant of money has been obtained from the UN to upgrade Kololo station to international standards.

CSO: 5500

BRIEFS

UZ SELECTS ICL COMPUTER--The University of Zimbabwe is to purchase an ICL 2946 computer to cope with present teaching and research needs, and with those of the foreseeable future. The acting director of the University's Computer Centre, Dr. Phil McFadden, said that regardless of the University's long association with ICL, the choice had been dictated purely by financial considerations. He went on to explain that throughout much of the sanctions period the University's needs have been met by an ICL 1901A machine, with a 2904 computer having been supplied on loan earlier this year. Dr. McFadden said that the University's needs were rather different from those of the conventional commercial organisation and one of the difficulties about selecting new equipment was that some of the needs often were diametrically opposed. "On the other hand," he said, "we need a machine which provides terminal access for the large groups of students in the faculties to run relatively simple programs, whilst on the other, we need powerful computing facilities for very high level scientific research." [Text] [Salisbury THE FINANCIAL GAZETTE in English 31 Oct 80 p 6]

CSO: 5500

BRIEFS

UKRAINIAN OBLASTS POWER--A new 750 kilovolt power relay line, the Chernobyl Atomic Power Station, the west Ukrainian substation, was put under commercial load on 25 October. The line will improve current supplies to west Ukrainian oblasts where large industrial enterprises have been built in the current 5-year period in line with the decisions of the 25th CPSU Congress. The power relay line, more than 500 kilometers long, was built by the Southwestern Grid Construction Trust. Despite the complexity of the route, the builders performed the works in strict accordance with the schedule. The most up to date instruments protect the line from overloading, short circuits and ice crusting. [Kiev Domestic Service in Ukrainian 1800 GMT 25 Oct 80 AU]

CSO: 5500

NATIVE FIRM DISQUALIFIED; AGENCY TURNS TO UK FOR VIDEOTEX TRIAL

Helsinki HELSINGIN SANOMAT in Finnish 25 Oct p 10

[Article: "Postal and Telegraph Administration Began Tests with British Videotex Equipment"]

[Text] The Helsinki Telset Corporation is astonished by the Postal and Telegraph Administration's intent to test a new information transfer system in three of the country's telephone districts with an English firm. The Postal and Telegraph Administration has refused an offer of cooperation with Telset, which is the only Finnish firm in this field.

As a condition for cooperation the Postal and Telegraph Administration is demanding telegraph rights from Telset. In the opinion of Telset it is not a question of telegraph operations. Cooperation between the Postal and Telegraph Administration and the Helsinki firm has not progressed any further than a couple of inquiry letters since last spring.

The Postal and Telegraph Administration's partner in cooperation is the Prestel Service owned by the British Postal Service. In England, as in many other European countries, data transfer by means of telephone is controlled and managed by the state.

In Finland the telephone districts of Oulu, Jyvaskyla, and Turku will be included in the initial experiments by the Postal and Telegraph Administration.

In the data transfer system or videotex information is transferred along the telephone network.

By means of an attachment information is printed out on a television picture tube, on which the subscriber can obtain desired information from a central computer acting as an information bank.

With Videotex it is also possible to transmit information from one subscriber to another, transfer accounts, order products, make reservations, and obtain directions in educational and health services.

"Postal and Telegraph Administration Observed from the Side"

Helsinki Telset has been carrying out operations outlined by the Postal and Telegraph Administration in the capital city area since 1976. The company owned by the Helsinki Telephone Association, the Sanoma Corporation, and Nokia is amazed by the decision to reject a domestic alternative. In the opinion of the company the Telset-system contains all those operational opportunities which the Postal and Telegraph Administration intends to study in its tests.

"In Finland Videotex operations were begun by individuals. The Postal and Telegraph Administration observed these operations from the side for a couple years primarily appealing to a lack of technical development," states Telset Managing Director Tapio Kallio.

"A new teletransmission law will be enacted soon, and the Postal and Telegraph Administration must make its position clear before then," he stated.

According to Kallio in Finland there are four to five new Telset-type systems being established. The one in Tampere is expected to go into operation in a few months.

Individual firms are hoping that the Postal and Telegraph Administration will concentrate on managing communications in the Videotex area since long distance communications as well as foreign services are primarily handled by it. Approximately two-thirds of the country's local telephone network is under private management.

Also the League of Telephone Systems will take a stand on the Postal and Telegraph Administration's experiment. In the opinion of the league the agreement of territorial telephone systems is needed if the Postal and Telegraph Administration intends to install its equipment in their networks.

The League of Telephone Systems also approves of competition in this area.

From the point of view of the consumer it is important that the equipment is interchangeable and that information banks can communicate with each other, emphasizes the league.

"The Laws Do Not Keep Up"

"The Finnish Telegraph Law dating back to 1918 does not relate to a Videotex-type system. We must enact a new telegraph law, which would cover any kind of data transfer occurring by means of the telephone and telegraph system. Indeed, technology develops so rapidly that legislation cannot keep abreast," stated Tapio Kasanen of the Postal and Telegraph Administration in describing the situation.

The Postal and Telegraph Administration's cautious stand results from the lack of contemporary legislation as well as from the fact that it is not yet fully convinced of the technical capabilities of Videotex. The equipment is criticized for being graphically clumsy.

"Negotiations with Telset broke off in the spring since the firm would not agree to applying for a telegraph permit," states Kasanen. "Telset operates on the basis of free trade and commerce."

The Postal and Telegraph Administration's test with the British firm is modest. According to Kasanen there is only one television equipped with Videotex equipment being used in the district.

"The English were chosen as partners for the reason that they have considerable experience in this area. Also the equipment there fits televisions manufactured in Finland without any changes."

The Postal and Telegraph Administration has not received any instructions for its experiments from the Ministry of Communications.

"We requested instructions in the spring, but no answer has been forthcoming," states Kasanen.

10576
CSO: 5500

TELECOMMUNICATIONS AGENCY TESTS DATA TRANSMISSION NETWORK

Oslo NORGES HANDELS OG SJOFARTSTIDENDE in Norwegian 21 Oct 80 p 4

[Article by Tore Tindlund: "Telecommunications Service's Data Transmission Network in Experimental Operation; Faster Transmission of Data Than Through the Telephone System"]

[Text] The Telecommunications Service's public data transmission network is on the verge of introducing a new offer to the users of telephone lines for the transmission of data. Experimental operation was begun on 1 October and ordinary operation will probably be a reality a half year from now.

In the experimental period 75 subscribers from Arendal in the south to Tromsø in the north will be hooked up to the data transmission network. Development will then take place without pause. According to the forecast, for example, the Telecommunications Service will boast 9000 connections in 1985.

The country's new data transmission network is part of a joint project among the Scandinavian countries. Combined service will, in addition, be established with West Germany in 1981. Furthermore, contact has been made with Great Britain regarding combined service and recently eyes have been turned toward the U.S. But the problem is that these two countries are preparing for packet switching in the transmission of data.

The development of the country's public data transmission network is at the present time 2 years behind schedule, and the other three Scandinavian countries have gotten just as far as we have with the development of their public data transmission networks. The delay is due, according to Chief Consultant Jan Gunnarsen, to the Telecommunications Service's supplier, which has underestimated the job of developing the data transmission network, and the situation will result in the fact that the equipment ordered will be supplied over a shorter period than agreed on.

Interest in the new data transmission network has appeared to be increasing, and the pace of technological advances will, according to Chief Consultant Gunnarsen, be decisive for whoever wishes to gain the greatest benefit from the new offer from the Telecommunications Service. It has been affirmed that Norway here is far ahead in a world context, and the Telecommunications Service has been conducting a continuing dialogue with the suppliers of user's equipment.

"We have also been in contact with the large and experienced users of electronic data processing who are already planning a system of the next generation. Furthermore, the public data transmission network is of interest to companies which do not feel they are in an economic position to lease lines," says Gunnarsen.

Capabilities and Waiting Period

The experimental project does not include the northernmost areas of the country, but in principle there is nothing to prevent users north of Tromsø from being hooked up during the experimental period. "Subscribers are being hooked up at a number of network stations. The distance from the station in Oslo to a user can be as long as is desired," says Chief Consultant Gunnarsen. Before 1985, according to the plan, three exchanges will be established outside of the capital, although not so rapid progress is made in the introductory phase.

An interesting point, in addition, is how long a waiting time has to be prepared for from the time a user orders a hookup until he is hooked up to the public data transmission network. "It is still too early to say anything definite regarding this waiting period. New timetables are being incorporated, but it must be possible for the Telecommunications Service to achieve a faster delivery time than for telecommunications services which are offered today, like, for example, hooking up to permanent lines," says Gunnarsen.

Under discussion are special guidelines to be complied with if requests for hookup to the data transmission network become substantially greater than the Telecommunications Service's installation capacity. Relatively speaking, these guidelines are not those which are in effect now for other telecommunications services. Besides, Chief Consultant Gunnarsen reminds us of the goal: no waiting lists.

Combined Service

The country's new data transmission network has been established as part of a joint project between Norway, Sweden, Denmark and Finland. The development has gotten almost equally as far in the Scandinavian countries, and the idea is to establish combined service between the countries. By the end of next year West Germany will probably also join in. A cooperative effort with Great Britain can probably also see the light of day, and recently eyes have been turned toward the U.S.

The problem is that there are two different methods of relaying data signals, and that in Great Britain and the U.S. packet switching has been prepared for. On the other hand, line switching is the method which the Telecommunications Service is using in the public data transmission network here at home. Whether the Telecommunications Service will be in a position to operate with the two methods simultaneously will be of great significance for combined service with other countries. This is because there are countries where packet switching is used exclusively as a basis.

This method consists in the fact that the data is transmitted to a network as a packet with an "address slip" on it and the network transmits the whole thing to the receiver. With line switching, on the other hand, direct communication is made between two subscribers.

Furthermore, a sizable combined service can provide problems because of all the different data languages which are used now. Today equipment suppliers often operate with their own data languages, but work is being done on an international basis with the goal in mind of reaching a common data language.

More Reasonable

But what does it cost to use the Telecommunications Service's data network instead of the telephone line?

According to Chief Consultant Gunnarsen, the conclusion must be that the choice of the data transmission network is more reasonable in most instances if preparations are made for proper use. A couple of important factors: The cost of renting a telephone line for the transmission of data depends on where in the country users are located, while the cost of using the data transmission network depends on how much is communicated.

It thus seems clear that the data transmission network opens the way for interesting future prospects. Data can, for one thing, be transmitted substantially faster by means of the new network than through the use of a telephone line or Telex.

For the sake of comparison, it can be stated that the new network is preparing for a data signal transmission rate of up to 9600 bits per second, whereas leased teletype communications equipment has a transmission rate of 200 bits per second maximum. And the highest achievable data signal transmission rate in the public telephone network is 2400 bits per second.

An example from Sweden can, besides, illustrate the possibilities at hand. There banks can be called by automatic gasoline pumps in order to check that there is money in a customer's account before filling the tank, regardless of which bank the customer has an account in.

According to Gunnarsen it is obvious, besides, that users can be included in the new network with the data equipment already obtained, although it is necessary to take into account the fact of not being in a position to utilize all the capabilities inherent in the data network.

8985
CSO: 5500

UNION IS FIRST ORGANIZATION IN COUNTRY TO USE TELEDATA

Stockholm SVENSKA DAGBLADET in Swedish 9 Oct 80 p 5

[Article by Bjorn F. Hansen: "Metalworkers' Union Tests Teledata"]

[Text] The Swedish Metalworkers' Union, with more than 450,000 members, is the first in the country to try out telephone-transmitted data on a large scale, the SVENSKA DAGBLADET has learned. The union will thus acquire a channel for both everyday information and rapid transmission of news in conflict situations.

One of the advantages of the system is that the Metalworkers' Union, as regards its own information, becomes independent of the TT [Press Wire Service Inc.], daily newspapers, radio and television. The union leadership at Tors Street in Stockholm can reach the members in the country with information in exactly the form the leadership itself wishes, not in the form that the TT, newspapers, radio or television want.

Another advantage is that the system permits two-way communication. Members in the branches all over the country can ask for information from the data bank in Stockholm regarding for example laws, regulations and agreements.

"At the end of November we will begin a pilot project involving 20 of the 175 branches of the union," says Gosta Fagerholm, who is responsible for the project.

The central data bank will be filled with, among other information, judgments by the Labor Court, legal interpretations and negotiation decisions. For example, if a safety monitor at a place of work contemplates intervention in a dangerous condition, he or she will be able to rapidly find out what has happened in similar instances.

The installation has been delivered by Swedish Philips and was manufactured in this country. The total cost is estimated at about 650,000 crowns.

The test period will be brief. The union congress in June 1981 is to decide whether teledata is something for the Metalworkers' Union or not.

But there is already experience which indicates that the new technology will keep its promises. The Union of Employees in Commerce, with its main office in Malmo, has a data network which during the conflict in the labor market last spring was used for the transmission of text, that is to say similar to teledata. A link was established between Malmo and the branches in Stockholm and Gothenburg.

"Afterward, people were very satisfied with the result and the test became a first step toward further expansion," says ombudsman Tore Jonsson.

The data network of the Union of Employees in Commerce will be expanded to include the 33 branch offices from Malmberget to Malmo and is to be completed by the turn of the year 1981/82. The union has consequently chosen to take another route, technically speaking, than the Metalworkers' Union. The Union of Employees in Commerce will expand its data network, while the Metalworkers' Union is testing a tailor-made system for just the type of information exchange which is desired. The cost to the Union of Employees in Commerce will be 1 crown per member and month.

11949
CSO: 5500

TELECOMMUNICATIONS AGENCY AWARDS TRANSFER DATA CONTRACT

Stockholm SVENSKA DAGBLADET in Swedish 6 Oct 80 p 26

/Article by Johan Myrsten: "Gets Large Order From Telecommunications Agency"/

/Text/ A small Swedish computer firm in Sodertalje -- RTC -- has, in competition with a number of international computer giants, been awarded the first order for equipment for an entirely new telephone service, so-called vacancy board reference computers.

The extent of the order has been labeled secret by the Telecommunications Agency, but the amount involved is around "several tens of millions," probably 20-30 million crowns. Additional orders can be expected further on, and RTC (Reference Tele Computer Inc.) also anticipates large export opportunities.

A reference computer in principle functions so that telephone operators at the switchboards of large companies or state agencies receive screens on which they can read where people are when they don't answer their telephones (out to lunch, in a meeting, on vacation, sick and so on). The data are collected and kept up to date by a computer. The input of information is done either by the one who is leaving his office calling in his information to a switchboard operator, who then feeds it to the data system, or by his punching a code directly from his telephone (for example 11 for "out to lunch, followed by 13.30 for expected return).

The reference computer can thus replace the system of special operators who keep watch at an vacancy board. The reference computer is primarily intended for the approximately 400 large Swedish companies, who have private switchboards with at least 400 extensions.

The internal telephone directory can also be entered into the system and be kept up to date.

Own Computers

"This system has been developed by the Telecommunications Agency. Now, some of the external machinery has been bought up," says department director Kurt Paulsson at the Telecommunications Agency's development section.

"But the computers for the actual switchboards -- the brain of the system -- are from the Telecommunications Agency."

The order includes 100 central systems with 1,000 terminals. RTC, which has developed and patented the machines, is actually a consulting company. Manufacturing is to be done by another company, Frikab in Ulvsunda, north of Stockholm.

"The terminals can also be used by vision-impaired people," the owner of RTC, Helmut Tietze, says. This is accomplished by using Braille characters with movable dots on a panel. Training of vision-impaired telephone operators is already in progress at an AMU /Labor Market Training/ center in Skane.

"That opportunity makes our terminals interesting on the international market, not least during the Year of the Handicapped, 1981. Some of the large retailers on the European market are interested in selling our product. The total European market may be in the neighborhood of 70,000 systems," Helmut Tietze says.

11949
CSO: 5500

NEWSPAPERS SHOW LITTLE INTEREST IN TELEDATA SYSTEM

Stockholm SVENSKA DAGBLADET in Swedish 5 Oct 80 p 4

/Article by B.F. Hansen: "Newspapers Cool to Teledata System"/

/Text/ "I am surprised at the little interest shown by some newspapers for telephone-transmitted data," says Tomas Ohlin, secretary of the panel on information technology, to the SVENSKA DAGBLADET. "Telephone-transmitted data as a mass medium will perhaps not arrive until the nineties, but it is now that the definitive decisions must be taken."

Telephone-transmitted data are viewed as the big helper for the individual, an enormous encyclopedia dealing with society and its services, goods, amusements and so on. Teledata can also be used, among other things, as a news medium. A telephone and a receiver are all the consumer needs.

Establishment of the new mass medium -- who, singular or plural, will get to use it? -- and will teledata contain advertising as well? -- are two crucial questions for the parliamentary study. The members of the panel and the political parties must shortly take a stand on this. The final memorandum is to be submitted to the government in the spring of 1981, if the timetable is adhered to.

The slight interest on the part of certain daily newspapers is surprising for several reasons, according to Tomas Ohlin. The question of who will use the medium ought to interest the newspapers, he says, Also, it should interest them whether advertising will be permitted or not.

As regards establishment of the system, people on the panel have developed several models, in which a Swedish Teledata Inc. with a monopoly is one of the extremes.

The opinion of people within the panel is that teledata will not be able to budge the position of the daily press. On the other hand, the advertising income of the newspapers will decrease, one study asserts.

Experts consider it probable that there will be some form of advertising. Advertising via teledata differs from other advertising on one important point, that is to say the fact that the consumer himself determines whether he will receive it or not.

A special analysis of the daily press and teledata has been decided on, despite the fact that the 2-year old study is in the final phase of its work. A special project group has been appointed on the request of the Swedish Newspaper Publishers' Association. It is to study applications of teledata which are of special interest to the press. The question of advertising is not part of the working program, however.

In cooperation with the Board for Information About Society, the panel will also examine what benefit government agencies may derive from teletext and teledata in comparison with traditional information channels. Two agencies have been selected for the study: SMHI /Swedish Meteorological and Hydrological Institute/ and the National Revenue Office.

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CSO: 5500

END

JPRS 76937

5 December 1980

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 141

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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JPRS 76937

5 December 1980

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TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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BRIEFS

'NUEVA NICARAGUA'-'TASS' SIGN--Moscow, 12 Nov (TASS)--Carlos Garcia, director general of the Nicaraguan News Agency NUEVA NICARAGUA who is staying in Moscow at the invitation of the Soviet News Agency TASS, visited TASS today and had a conversation with TASS director general, Sergey Losev. Later today the heads of the two agencies signed a protocol on cooperation and an agreement on the exchange of photo news services between TASS and the NUEVA NICARAGUA agency. The protocol calls for the broadening of cooperation between the two agencies in the field of communication equipment and news distribution. [Text] [LD130250 Moscow TASS in English 1531 GMT 12 Nov 80]

CSO: 5500

BRIEFS

SRI LANKA-INDIA LINK--A microwave telephone link with Indian will become operational from next year, Posts and Telecommunications Minister D.B. Wijetunga told a meeting in Kurunegala 20 October that once this system is installed direct dialing facilities to India will be available. [BK220601 Colombo International Service in English 1045 GMT 21 Oct 80 BK]

CSO: 5500

BRIEFS

SATELLITE MAPPING--Pictures taken by a satellite which passed over Victoria today were used to help water supply geologists map agricultural area with high soil salinity. As it passed over Kerang in the north of the state, field officers took soil samples to compare with images from the satellite known as Lansat. The information gained from the satellite is expected to show to what extent the high salinity problem in the area is worsening. [Text] [Melbourne Overseas Service in English 1230 GMT 13 Nov 80 OW]

CSO: 5500

BRIEFS

REGULAR TV PROGRAMS--The Information and Broadcasting Department, which has been broadcasting television programs on trial basis since 3 June 1980, will commence transmitting regular television programs beginning 1 November. The daily broadcasting time will be from 1930 [1300 GMT] to 2130 [1500 GMT]. Special programs will be aired every Saturday evening and Sunday afternoon. The program schedule for 1 November will consist of songs, musical and choreographic shows. [BK010953 Rangoon Domestic Service in Burmese 1330 GMT 30 Oct 80 BK]

CSO: 5500

BRIEFS

REMOTE SENSING COURSE--Madras, October 22: The first ever post-graduate diploma course in remote sensing which could pave the way for national progress in engineering, geosciences, military intelligence and other areas will be inaugurated at Perarignar Anna University of Technology (PAUT) at Guindy next week. The recently formed technological university had earlier scored another first by setting up India's pioneer department in photogrammetry in the Guindy College of Engineering, which forms the nucleus of PAUT. Photogrammetry and remote sensing are the present-day panacea to most of our worries in almost every walk of life," says Prof. W.P. Vijayaraghavan, principal of the engineering college. By sending up cameras in aircraft flying at an altitude of a few thousand metres and analysing and interpreting the aerial photographs most surveying problems of the country can be solved, he says. Apart from aerial photography, remote sensing is being done through different forms of scanners in spacecraft and satellites. As each satellite scene covers a 185-km area, the study of the earth's crust, monitoring levels in rivers and reservoirs, following forest growth and crop patterns, analysing environmental pollution, predicting natural calamities and other tasks become easy. The elective courses offered by PAUT include electronic survey, statistical theory, computer programming and computer analysis of remotely sensed data, geology and geomorphology, cartography and cadastral surveying. [Text] [Bombay THE TIMES OF INDIA in English 23 Oct 80 p 5]

CROSSBAR EXCHANGES PLANNED--Bombay, September 6--India will soon begin the manufacture of cross-bar exchanges with 200,000 line capacity, the Union communications minister, Mr C.M. Stephen, said here today. He was inaugurating a 10,000 line exchange costing over Rs 10 crores at Mazgaon. This is the 40th exchange in the city. With this, 13,400 lines have been added to the Bombay Telephone system in the current financial year. The department has plans to add 10,000 lines to the Mazgaon exchange "in the near future." Efforts are also being made to either expand the present capacity or commission new exchanges at the Cooperage, Prabhadevi, Andheri, Borivli, Thane and other areas. Mr Stephen said the government was also thinking of manufacturing cross-bar exchanges with 500,000-line capacity. [Excerpt] [Bombay THE TIMES OF INDIA in English 7 Sep 80 p 5]

SATELLITE NETWORK INAUGURATED--The domestic satellite telecommunications network connecting New Delhi and Madras with remote areas of Car Nicobar, Port Blair, Kavaratti, Leh and Aijol was inaugurated today by the prime minister at Sikandrabad near Bullandshahr about 70 km from New Delhi. Earth stations set up at all these seven places are now connected through the international telecommunications satellite. Speaking on the occasion Mrs Gandhi reiterated that the government is fully aware of the problems of remote areas. All efforts are being made to promote the welfare and economic development in these areas. Hailing the event as historic, Mrs Gandhi said that the new link will not only strengthen unity among different regions but also help the speedy development of remote areas. [Excerpts] [BK151619 Delhi Domestic Service in English 1530 GMT 15 Nov 80]

CSO: 5500

BRIEFS

RADIO LINK WITH ANTARCTIC--Tokyo, 21 Nov (KYODO)--Regular radio communications will begin next February between Japan and Showa Base in the Antarctic for the first time since the base was established there more than 20 years ago, the Education Ministry said Friday. A radio station installed at Showa Base will start sending messages direct to Japan via a marine communications satellite. Communications between the base and Japan have so far been made by short wave radio but these communications have been limited to the sending of telegrams for 90 minutes every day except for the weekends and two telephone calls a month, the ministry said. The regular communication facilities will assist in the rapid transmission of observation data, it said. [Text] [OW211143 Tokyo KYODO in English 1136 GMT 21 Nov 80]

CSO: 5500

VIENTIANE TO HAVE OWN RADIO BY 1981

Vientiane VIENTIANE MAI in Lao 26 Aug 80 p 2

['Conversation With the Editor' Column: "Is There a Radio Station for Vientiane?"]

[Excerpts] [Question] 1. Does Vientiane City and Province have its own radio station? The other provinces all have them?

2. Why has the Vientiane City and Province loudspeaker network been closed down and not yet been reactivated?

[Answer] 1. As of now, there is no radio station for Vientiane City and Province. There are many reasons for this, primary among which is that there is still a shortage of cadres for this matter. However, the Vientiane Propaganda Service, specifically our department is presently diligently paying attention to this matter by training and teaching the specialized subject matter to cadres. We are preparing the station and other facilities and it is believed that in 1981 at the latest, [the station] will be in operation. However, that depends on conditions as stated above, because in order to do anything, things are difficult because we are not unlike newborn infants. As everyone knows our country has only been liberated for just over 4 years and can be compared to a person who [has learned to] walk and who finds it difficult to do anything. However, [we] must firmly believe that we are urgently pushing this matter.

2. As is the situation with the radio, the relevant services are urgently paying attention to things to facilitate this matter. It has halted [operations] for many reasons. However, we ask that you be understanding of the difficulties. As Comrade Thongkhoun Sengdara, of the responsible committee for this task has told us, it is believed that by the end of this year, [the system] will be put back into operation in some districts located near the capital. As to which districts these will be, we wish to keep that a secret. If it were to be revealed in advance, it would not be as exciting when the time actually came.

CSO: 5500

LAOS

BRIEFS

GROUND STATION PLANNED--During the afternoon of 10 June 1980, Mr Bounma Thavisai of the responsible committee in the Collection Department, Ministry of Posts and Telecommunications told our reporter that since our country was liberated 5 years ago postal and telecommunications activities have been organized, improved and expanded in order to meet constantly and better the needs of society in national defense, expansion of education and culture, promoting production, raising the people's living standards and serving foreign relations. Specifically in Vientiane City and Province at this time the activities of the postal network have been expanded to the level of 15 district towns throughout Vientiane Province. In accordance with the initial 5-year plan, the work of setting up a satellite ground station will be continued as planned. A telephone directory will be produced, telephones will be expanded and the reporting system will be improved for good results. Mail boxes for mailing letters will be further improved and the long distance telephone system will be extended to the various districts throughout Vientiane Province. Currently, the long-distance telephone system is in use in two district towns. [Text] [Vientiane VIENTIANE MAI in Lao 14 Jun 80 pp 1,4]

VANG VIANG TELEPHONE SYSTEM--At the beginning of July 1980, there was a ceremony held in [Meuang] Vang Viang District, Vientiane Province to formally hand over a 100-line telephone exchange to the district. Mr Somlit represented the Ministry of Posts and Telecommunications in handing it over and Mr Kham Boulom of the [Meuang] Vang Viang District Administrative Committee accepted it. The cadres and local officials concerned were present. This was done to contribute to the promotion of production and to the steady raising of living standards of the people in that locality. [Text] [Vientiane VIENTIANE MAI in Lao 15 Jul 80 p 1]

CSO: 5500

BRIEFS

SOLAR FLARES AFFECT COMMUNICATIONS--Kunming, November 8 (XINHUA)--The Yunnan Observatory reports sighting a solar flare of third degree yesterday morning. The flare, located near the center of the solar disc, commenced at 9:50 a.m. and lasted until 11:10 a.m., astronomers at the observatory said. The flare interfered with the earth's ionosphere, causing a break in short-wave communications in the Kunming area for about an hour and a half. It will continue to cause geomagnetic disturbances for a couple of days, they forecast. Two previous flares were reported in early September and in October by the Beijing Observatory. [Text] [OW080709 Beijing XINHUA in English 0700 GMT 8 Nov 80]

NEW SHANGHAI TELEVISION CHANNEL--Shanghai will begin transmitting television programs on Channel 20, beginning some time next January. To enable users of those television sets receiving programs on Channel 12 to receive transmissions through this new channel, the electronics industrial departments in Shanghai have made the necessary arrangements for a municipal television equipment plant to produce U-20 channel tuners, type V-2. Mass production of the channel tuners has begun. They will be priced at about 12 or 13 yuan each, according to a cost estimate. [OW051235 Shanghai City Service in Mandarin 2300 GMT 4 Nov 80 OW]

CSO: 5500

BRIEFS

RESTRUCTURING OF ROK MEDIA--Seoul, 17 Nov (HAPTONG)--The South Korean press circles are about to face a major restructuring and reorganisation as plans are fully underway to merge a number of daily papers, news agencies and broadcasting companies. According to the plan announced by the Korean Newspaper Association and Korea Broadcasters Association Friday, the overhauling will involve five news agencies, one television network, three radio stations and a number of provincial and financial papers. Under the plan, the nation's two major news agencies, The HAPTONG News Agency and the Orient Press, will be merged to set up one larger privately-run agency, which will also absorb three other minor specialized news agencies. The Tongyang Television Network (TBC-TV) will be incorporated into the state-run Korea Broadcasting Company (KBS) which plans to create a new TV channel exclusively for educational and cultural programmes. The KYONGHYANG DAILY NEWS will absorb the daily SIN-A ILBO, one of the seven central papers, and the only state-run evening paper; the SEOUL SINMUN will become a morning paper. The other six central papers will remain unaffected in the reorganisation. Three radio networks will also be involved in the restructuring including the Tongyang (TBC) radio and the Tong-A Broadcasting System (TBS) which are to be merged into KBS. The Chrisitan Broadcasting System (CBS) is to air only evangelical programmes. Of the nations four financial papers, the MAEIL KYONGJE and the HYONDAE/KYONGJE will survive while the SEOUL KYONGJE will be incorporated into the HANGUK ILBO, and the NAEAOE BUSINESS JOURNAL into the KOREA HERALD. All the provincial papers will be merged under the principle of one paper for every province. The plans will go into effect from December. [Text] [SK170138 Seoul HAPTONG in English 0124 GMT 17 Nov 80]

CSO: 5500

CEMA COMMITTEE FOR POSTS, TELECOMMUNICATIONS MEETS IN BERLIN

Opening of Session

AU211149 East Berlin NEUES DEUTSCHLAND in German 19 Nov 80 p 5

[Text] Berlin (ADN)--The 19th session of the CEMA Standing Committee for Posts and Telecommunications was opened on Monday in Berlin by Vasily Shamshin, USSR minister of posts and telecommunications. On behalf of the GDR Government, Rudolph Schulze, deputy chairman of the GDR Council of Ministers and GDR minister of posts and telecommunications, welcomed the delegation heads and members.

On the basis of the 34th CEMA session decisions, the committee will deliberate on measures for perfecting the organization of cooperation among the CEMA member countries in the sphere of posts and telecommunications, as well as on the tasks from 1981 to 1985.

Coordination of Plans 1981-85

LD222348 East Berlin ADN International Service in German 1758 GMT 22 Nov 80

[Text] Berlin, 22 Nov (ADN)--The 19th meeting of the CEMA Standing Committee for Posts and Telecommunications ended in Berlin today after several days of consultations. The meeting was attended by delegations from Bulgaria, Hungary, Vietnam, the GDR, Cuba, Mongolia, Poland, Romania, the Soviet Union and the CSSR.

In accordance with the agreement between CEMA and the Government of the SFRY a delegation from that country took part in the meeting. Representatives of the Democratic Republic of Afghanistan were present as observers.

The committee took stock of the state of coordination of the plans for coordination of post and telecommunications of the CEMA member countries in the period 1981 to 1985. It approved the plan for the second stage in the creation of the mutually linked automatic integrated communications system of the CEMA member countries and their working plan up to 1982. The committee also approved the proposals for cooperation between the CEMA member countries and the SFRY in post and telecommunications for the period 1981 to 1985.

CSO: 5500

THIRTY COMPANIES NOW PRODUCING COMPUTER COMPONENTS

Rio de Janeiro JORNAL DO BRASIL in Portuguese 25 Oct 80 p 17

[Text] Sao Paulo—The national computer industry has five large companies producing miniature computers, in addition to lesser electronic digital products. They are: COBRA—Computadores Brasileiros S.A.; EDISA—Eletronica Digital S.A.; LABO Eletronica S.A.; SID—Sistemas de Informacao Distribuida S.A. and SISCO—Sistemas de Computadores S.A.

Nearly another 30 companies, which manufacture accessories and components, are also linked to the Brazilian Computer and Accessory Association, ABICOMP. The purpose of this organization, which was created last year, is to promote the union of the national industries of the sector, primarily seeking the independence of Brazil in the area of data.

To have an idea of the importance of national manufacturers participating in the sector, the 35 companies associated with ABICOMP have an overall capital of 20 billion cruzeiros and general investments of 3.4 billion cruzeiros. In 1979 they sold nine billion dollars worth of goods and in the first half of 1980 their sales were 17 billion cruzeiros, with forecast sales of 25 billion cruzeiros by December.

LABO Is Outstanding

The management of LABO Eletronica (Forsa Group) believes the results of their first year in the manufacturing and sale of computers, whose gross receipts for sales and services (including taxes) in the 14-month season ending in May, were very satisfactory, totaling 533.4 million cruzeiros compared to 41,354,000 cruzeiros in the season ending in May 1979.

A large part of the LABO systems installed and on order are for medium-sized companies, which are using computers for the first time. According to the director of the company, "We have a dominant position in that specific segment of the market," with 90 percent of the sales in the last fiscal year being in computers.

The operational profit of the company reached 7.3 million cruzeiros compared to a loss of five million cruzeiros last year. Net profits after income tax and monetary correction were 11.5 million cruzeiros, compared to a loss of 5.8 million cruzeiros.

With a total of 45 technicians and officials (200 of them of an advanced level) [as published], LABO was also outstanding in terms of consolidation of sales, taking into account that results exceeded expectations considerably. A sales target of 120 systems and the technical delivery of systems throughout the fiscal year was established.

Sales, however, reached 131 and deliveries 118, for a total by the end of the year of 138 systems installed and fully operational with both hardware and software. The company finished its system of software, the SACIL—LABO Integrated Applicable Commercial Systems--also tested and implemented--and has placed more than 400 modules on the market, primarily for users of the center-south region.

With a payroll of nearly 30 million cruzeiros (the greater part paid to the area of software), LABO finished the installations of its plant and has integrated the systems, using national accessories, and is now beginning the manufacture of electronic boards, using imported material and, progressively, national components.

Learning

Still during the fiscal year ending in May, the company embarked on a greater approximation with its associate Mediata Informatica e Tecnologia S.A., the first "system house" of the Brazilian market. That approximation and the agreements signed should produce results this fiscal year, according to management, in which it is expected that 30 percent of the systems delivered by LABO will be provided with "mumps," general use types and data entry.

LABO executive vice president Carlos Augustine Caldas da Silva said that the fiscal year beginning 1 June indicates excellent prospects in terms of production of equipment, as well as in the progressive national manufacture and sale of its products, "Whose efficiency has already been confirmed by more than 170 national and multinational users." LABO even sold a system to an internationally known manufacturer of data processing equipment.

The volume of systems contracted during the fiscal year reached nearly 650 million cruzeiros at current prices or those forecast for the time of delivery, guaranteeing for LABO at the beginning of the fiscal year June 1980 to May 1981, sales of 38 systems. The company invested 300 million cruzeiros during the fiscal year in fixed expenses and preoperational expenses. Those expenditures were made as deferred assets and will be amortized over a period of 10 years.

Bradesco Foundation and SIF [Sistemas de Informacao Distribuida]

The participation by the Bradesco Group in SID and DIGILAB--Laboratorio Digital S.A. went beyond a simple contribution of capital by that bank conglomerate. Under specifications of Bradesco, those companies developed a complete cashiers terminal.

The initiative made possible the conditions, not only for the mass production of those terminals for the "agencies of the future" (agency in real time), but also so that the laboratory of the Bradesco Foundation could develop a manual CMC7 reader, which concluded by breaking the international technological taboo that the reading of CMC7 characters should be constant.

This is a more practical reader than the motorized CMC7. It is completely electric (but it does not have a motor), having only a small spring as a mechanical part.

According to the manager of the Bradesco Data Processing Department, Jose Silvio Simoes Pinto, the manual reader developed in the laboratory of the foundation is more practical, occupies less space and will entail fewer costs than the motorized reader.

It also has the "time and movement" aspect as an advantage. The cashier terminal passes documents such as checks through the reader and without releasing them and authenticates them at the larger terminal. The motorized CMC7, which is imported for around $5,000, obliges the cashier terminal to let go of the document. Before developing the manual reader, the foundation laboratory built a prototype of the motorized reader, spending only $150 for the components it purchased in Sao Paulo. The foundation preferred the manual reader because it was more economical.

The cashier terminal, the manual reader CMC7, the numbered keyboard for the customer, the consulting terminal, the flat printer and the magnetic card recorder are linked to the minicomputers manufactured by SID (SID 5000), all together making up the equipment needed for the "agency of the future."

Bradesco Plans

The Bradesco Group intends to use the equipment of the "agency in real time" as of the beginning of next year, inaugurating two systems. The first will be at the master agency and the other at an agency still to be selected. During the next year, those real time terminals will be installed gradually until they are provided for all 163 Bradesco agencies in Greater Sao Paulo, Campinas and Santos, as well as 150 service facilities.

According to Jose Simoes Pinto, in about 4 years the system will be broadly used in that area, making it possible as of 1981 to use the idle capacity generated by the large computers for processing services of the group throughout the country. To have an idea of the scope of the need for processing by Bradesco, there is the fact that its agencies are now receiving a million checks per day.

Interest and Experience

For nearly 2 years, the Bradesco Data Processing Department has been devoting itself to studies for obtaining specifications for its processing terminals. The department experimented previously in two agencies, using real time equipment from two different suppliers. However, according to Jose Simoes Pinto, the service by those two systems fell short of the requirements of the bank. The new choice, based on the specifications given to SID, DIGILAB and the Bradesco Foundation, "gives us greater speed with greater reliability," he emphasized.

The average number of cashier positions per bank agency in Sao Paulo is 25. The terminal of the real time agency, which Bradesco is going to use as of February, will make possible the linkage of 32 cashier terminals to the SID minicomputers. In that system, the large computers will be more optimized and will work only as backups.

Sales

SID, whose main shareholders are Sharp and Bradesco, recorded sales during the fiscal year ending 31 January of 550 million cruzeiros, delivering nearly 100 systems. In the first six months of this fiscal year, it has already sold 750 million cruzeiros worth, or approximately 120 systems.

The company should end this fiscal year with sales of 2.2 billion cruzeiros for 300 systems, including nearly 1,000 electronic billing machines, its second product after computers. It has a total of 780 officials, approximately 40 percent of whom are of a higher level. It will now put on the market the new models of the 5000 minicomputer, hardware as well as software. Moreover, it will put out a family of financial terminals and another micocomputer, all totally developed by the company, in the former case, with the support of the Bradesco Foundation and DIGILAB.

Emphasizing Technology

"Consolidation of a strong and competitive national industry with the absolute knowledge of the technological base, which will be demonstrated by emulation and our own development and not by simple technological 'transplants,' " was, according to marketing general director Jose Roberto Faria of SISCO-Systems Computers, and the alternative chosen by the company.

Unlike the majority of competitors, who installed themselves in sophisticated offices far from the factories, SISCO (Hidroservice Group) occupies the cramped offices of the upper levels of the factory itself in the airport district of Sao Paulo. To Jose Roberto Faria Lima "It is more rational to invest as much as possible in technology and later become more sophisticated in something which seems secondary to us."

He emphasized that the company already knows the engineering aspect of the product and production, in addition to having had the first contacts for providing OM with ELEBRA and MOCROLAB, including other similar systems manufactured by the company.

He also pointed out that one of the reasons for the success of SISCO is the technological support structure in the period before and after sales and in maintenance. He added that the interest of his marketing department is to create a sales network on a national level. He also said that only his company and COBRA, of all the national computer manufacturers, have a production control division.

The company has a total of 333 technicians and officials, 36 percent of them of a higher level, and 14 percent of a technical level. It invested nearly 100 million cruzeiros in development in 1979 and up to October of this year, it has a total of 57 customers in the various productive sectors.

One of its most important sales was that of the Dual MB 8000 System to the Parana State Bank (BANESTADO), equipment which will be used in the creation of a network of regional centers for distributed processing. In the first phase of the project, equipment will be installed in Curitiba, Londrina, Maringa and Cascavel, which will be linked to the central IBM computer located at the headquarters of the conglomerate in Curitiba.

8908
CSO: 3500

BUSINESSMAN ASKS FOR HELP FOR TELECOMMUNICATIONS INDUSTRY

Rio de Janeiro JORNAL DO BRASIL in Portuguese 28 Oct 80 p 15

[Text] Sao Paulo and Belo Horizonte--Worried about the future of the national telecommunications industry, the director of ABINEE [Brazilian Electro-Electronic Industry] and president of the Embracom Group, businessman Jacques Glaz pointed to the closing of Transit Semicondutores S/A of Belo Horizonte and the transfer of stock control of the Elebra Group to the Docas de Santos Company as "obvious consequences of the absolute lack of a more defined industrial policy adapted to the present needs of the industries of the sector."

Responsible for a conglomerate of genuinely Brazilian companies, which are mainly active in telecommunications, the businessman said that a better planning of orders, a reserve market of more defined patterns, effective rules for help and protection, in addition to the execution of that policy itself, are necessary for the survival of the companies of the sector.

In the opinion of Jacques Glaz, measures of that type, if really carried out, will help the Brazilian telecommunications companies "face the successive cuts and reductions in orders by the government, the greatest reason for the crisis the sector is undergoing."

Control of TELEBRAS

Since the stockholders agreement signed in November 1978, TELEBRAS [Brazilian Telecommunications, Inc.] has been controlling the production and sales of Transit Semicondutores, whose 350 employees receive their last pay in July. In an official note revealed yesterday in Belo Horizonte, the management of Transit says that the company is a viable enterprise with liabilities of less than 410 million cruzeiros and an installed capacity for producing one billion cruzeiros per year at today's prices.

"After the decree announced by SEI executive secretary Octavio Genari becomes official, defining the conditions for the activities of the data industry based on the semiconductor, all possible obstacles which make the operation of Transit difficult will disappear and the manufacture of semiconductors by Brazilian companies will be facilitated," adds the Transit note.

According to a company source, former minister Quandt de Oliveira, who left the presidency of Transit a week ago, also ceased to be the TELEBRAS representative in the company. He also held the post of vice president for operations, to which the Production and Sales Directorates were subordinated, after the departure of Antonio Bahi, TELEBRAS official appointed to the position after a stockholders agreement signed in November 1978.

8908
CSO: 5500

NATIONAL TELECOMMUNICATIONS INDUSTRY REMAINS IN TROUBLE

Rio de Janeiro JORNAL DO BRASIL 13 Oct 80 p 13

[Text] Brasilia--The national telecommunications industry, with an idleness rate of around 65 percent today, idleness caused by the decline in government spending which restricted the volume of orders to the sector, should not have its situation changed much in 1981 because the government, its principal customer, is going to maintain the same level of orders of this year: around 385,000 new telephone terminals.

According to the conclusions of the "Telecommunications Sectoral Diagnosis--Great Industries of the Sector, 1980," prepared by the Geicom-Materials Component Interministerial Executive Group, an agency linked to the General Secretariat of the Ministry of Communications, faced with the recession in the telecommunications industry, the large companies are seeking to export as much as possible, and since they are having difficulties in competing abroad due to the price of components, they are exporting equipment with percentages of nationally manufactured parts much lower than those already attained.

Imports

After detailed studies of the industries which make up the telecommunications sector in Brazil, Geicom concluded that in the 1977-1979 3-year period there was a substantial reduction in imports by the telecommunications sector. The value recorded in 1979, according to the agency, was $103.8 million, which represents only 38 percent of the value recorded in 1976, which was $265 million (including the figures from the operating and manufacturing companies).

In the 1977-1979 period, imports by the sector of telecommunications meant 20, 11 and 8 percent of the imports by the electrical-electronic sector, and 1.5, .7 and .6 percent of total Brazilian imports. The telecommunications equipment industry, which imported the most in that 3-year period was Siemens, followed by Ericsson and NEC. Specifically, the companies which imported the most were Siemens with $16.9 million, followed by NEC with $11 million, and Ericsson and Phillips of the northeast with $6.9 million each.

The "Diagnosis" says that Ericsson, the largest importer among the industries of the sector during the 1974-1976 3-year period, in 1977 fell to second place and in 1979 fell to fourth place in imports, with a volume of $6.9 million, four percent of the values of its imports during 1974, which amounted to $164 million.

As far as exports are concerned, the Geicom document says that in the 1977-1979 3-year period, Phillips of the northeast was in first place with volumes of $13.4 million, $11.4 million and $10.4 million, respectively, in telephone equipment exports during the 3 years of the aforementioned period. That industry, according to the document, exports equipment under the "draw-back" system and its balance (exports minus imports) has remained positive.

Also in 1979, the industry which exported the most telecommunications equipment was Standard Eletrica with $14.7 million, followed by GTE of Brazil, Telecommunications Division, and by Phillips of the northeast, both with $4.1 million. In terms of a positive balance--exports minues imports--Standard Eletrica showed $9.7 million, followed by Phillips of the northeast with $3.3 million and GTE of Brazil with $1.7 million.

Generally, however, exports by the telecommunications sector remained at very low levels in 1975 and 1976--a maximum of $6 million. In 1977, exports advanced to $14.2 million and in 1979 they rose to $24.5 million, which is 4.6 times more than the value of exports in 1974, when they amounted to $1.7 million.

According to the Geicom diagnosis, among the companies analyzed those which show the smallest percentage of nationally-manufactured parts in telecommunications equipment are Auso, Siemens and NEC. Those showing the largest percentage are GTE, Plessey, Ericsson and Standard Eletrica.

Ministry of Communications Secretary General Romulo Villar Furtado said that the problems of the telecommunications industry are basically those of financial resources. In his opinion, the idleness of the sector in terms of production will tend to increase if the present levels of orders are maintained.

8908
CSO: 5500

BRIEFS

SUBMARINE CABLE TO U.S.--Communications Minister Haroldo Mattos has signed a resolution authorizing EMBRATEL to contract special engineering services for completing the laying of the "BRUS" submarine cable to connect Brazil with the United States. The contracts for a total of $6.3 million will be signed with 5 U.S. firms: American Telephone and Telegraph, Transoceanic Communications Inc. and Western Union International Inc., and ITT Eorlee World Communication Inc. [as received] [PY160225 Rio de Janeiro O GLOBO in Portuguese 7 Oct 80 p 7 PY]

CSO: 5500

STATUS REPORT ON COAXIAL CABLE PROJECT

Havana BOHEMIA in Spanish 3 Oct 80 pp 16-21

[Article by Gregorio Hernandez; source of information: Coaxial Cable Directorate, Ministry of Communications]

[Text] The diverse and complex social and economic activities of society today are based, among other things, on three main systems: transportation, the distribution of electric power and electric and postal communications.

The multidirectional movement of persons and products, the flow of energy in the form of electricity and the conveyance of information, using the respective networks, combine their effects in the dynamics of society.

Consequently, one of the positions approved by the First Congress of the party states that within the field of communications, "it is necessary to proceed with all possible speed on the installation of 1,800 kilometers of coaxial cable, a mainstay guaranteeing the introduction of a national teleselection system over the next 5-year period."

This cable, along with the microwave system, lines of transmission and other networks complementing it, will be called upon to absorb the increase in telephone traffic during the period.

In addition, the country's development throughout the years of the revolution has given rise to an increase in the needs of long-distance communications services, inasmuch as the existing systems are not adequate to meet the high volumes of telephone traffic.

As a result of this situation, the governments of the Soviet Union and Cuba signed economic cooperation agreements in December 1972 in Moscow and in April 1976, agreements concerning the planning of a line of communications by cable (Cubanecan Project) 1,737.9 kilometers long, with the installation of 2,179 kilometers of coaxial, symmetrical cable (in some sections, two parallel cables will be installed) running from the city of Pinar del Rio to Guantanamo. The line will link the capitals of the 14 provinces and will have telephone branch lines running to other major cities such as San Cristobal, Artemisa, Guines, San Antonio de los Banos, San Jose de las Lajas, Jaguey Grande, Mayari and Palma Soriano.

Objective

The prime objective of the coaxial cable consists of meeting our country's needs in the field of telephone and telegraph communications and the transmission of data over long distances. It will also be used as a reserve for a television channel in the new, recently-installed National Microwave System.

In there should be an interruption in a section of the Microwave System, it will be possible to broadcast a television channel, both the audio and video, by the coaxial cable. Likewise, if there should be an interruption in a section of the cable, 960 telephone channels will be able to be transmitted by the new National Microwave System.

The cable will meet the circuit needs of the country's main cities and the system's expansion capabilities will make it possible to cover demands emerging after 1990. In addition, the coaxial cable may be used as a means of facsimile transmission for the press, eliminating transportation by air to the provinces. The installation of the System of Transmission by Coaxial Cable will put Cuba on a level with the developed countries with respect to long-distance communication facilities and will lay the foundations for the future national television selection network.

Technical Advantages

Long-distance telephone service -- the service between cities or towns -- can be operated manually or automatically.

Manual service is extended by operators who direct or interconnect users, while under the automatic system, any subscriber may communicate with a distant telephone without the intervention of an operator by means of direct dialing to the desired city.

In order to automate the national telephone service, it is necessary to have a teleselection system making it possible to handle requests for long-distance calls. Studies made internationally and the experience of our own country show that this telephone traffic is steadily growing.

In order to meet this demand, it is necessary to have an adequate means of transmission supplying the large numbers of telephone channels necessary.

Transmission may take place in various ways, one of which is the coaxial cable. Among the technical advantages of this system is the possibility of transmitting a broad spectrum of frequencies and consequently, a large number of telephone channels. At the same time, it offers good protection against interference and ensures privacy in communications.

System

The Coaxial Cable System (Cubanacan Project) includes the following: coaxial cable, symmetrical cable, multiplex equipment, unmanned repeater stations, semi-terminal stations and terminal stations.

The coaxial cable for communications is made up of two conductors: One is solid, running inside the other, which is hollow, in the form of a tube, and which is wrapped around the first in a concentric manner. The name "coaxial" is derived from the fact that both cylinders have the same central axis.

The internal conductor is kept in the center of the outside tube by means of tiny separator disks made of an insulating material. The disks are placed at short intervals.

Several of these coaxial lines are placed inside a cylindrical nucleus and more pairs of normal conductors are added to be used for supervision or coordination.

The entire cable is covered with a thick layer of insulation and finally, an outer coating of lead and aluminum. Other materials can be put on top of the lead and aluminum to give the cable greater protection against corrosion, interference from electric lines and atmospheric discharges.

In Cuba, the system's main route will be a coaxial cable containing two pairs of coaxial lines and ten pairs of symmetrical conductors. For some connecting lines of the main route, so-called symmetrical," high-frequency cables will be used. These consist of several pairs of copper wires put together in groups inside the same cable, insulated against one another and then covered with aluminum and lead. Like the coaxial cable, the entire unit is properly protected against outside interference.

Both the coaxial cable and the symmetrical cable will have a continuous gas pressure system installed in order to improve reliability, ensure control of the hermetic tightness of the wrapping and prevent any moisture from penetrating during any interruption.

In order to insert or extract information from the coaxial or symmetrical cable, it is necessary to install so-called multiplex equipment whose function is to take every conversation, assign it a frequency gauge, mix it and amplify it so that hundreds of conversations can be transmitted simultaneously by the coaxial cable.

The unmanned stations will be placed every 5.7 kilometers in specially designed cassettes. They are called "unmanned" stations because they require no personnel for their constant attention. They have a control and alarm system handled by the semi-terminal stations, where possible problems can be detected and corrected if necessary.

The semi-terminal stations will be set up in a main building very similar to a telephone central. The building will house the multiplex equipment hooked up to the coaxial cable, along with the telefeeder and telemechanical equipment for the unmanned repeater stations.

The terminal stations are the buildings -- telephone centers -- in the cities equipped with communications liñes for the city or center of population in question, hooked up to the urban networks by means of the automatic and manual long-distance communications centers.

At the present time, the development of technological research has resulted in a considerable increase in the capacity of the coaxial cables. Today, throughout the world there are coaxial cables in operation with capacities of up to 100,000 telephone tracks.

Layout

The cable's route was chosen based on the following considerations: its length, the minimum cost for protection against corrosion; interference from high-tension electrical lines and atmospheric discharges; minimum effect on agriculture; reliability of the system; ease of maintenance and operation; prospective plans for electric lines, roads, hydraulic projects, agricultural and livestock plans; the prospective growth of cities, and so on.

The route mainly runs along the National Highway (eight-lane highway). In sections at a distance from the National Highway, the cable route runs along the Central Highway or other important roads. Recently, two crossings of the highway were built in Havana Province, using drilling equipment allowing the cable to pass without damaging the pavement.

Similar work is also being done on the section of the highway in Villa Clara Province. This was made possible by the cooperation of the Ministries of Transport and Construction, as well as that of the Vice Ministry of Geology of the Ministry of Basic Industry.

The total length of the route is 1,737.9 kilometers, corresponding to 1,435.4 kilometers of coaxial cable and 743.6 kilometers of symmetrical cable, for a total of 2,179 kilometers.

Infrastructure

In conclusion, we would say that the completion of the Cubanacan Project requires:

The construction of 14 complexes for semi-terminal stations; the construction or expansion of 21 telephone centers; the construction of 237 cassettes for unmanned repeater stations; the construction and installation of 1,220.5 kilometers of cable bed, using mechanized excavation and the manual and mechanized laying of cable; the construction and installation of cables along 475.3 kilometers, using explosives and jack hammers; the construction of 42.22 kilometers of underground telephone routing with 6 to 12 conduits in the cities; the installation, measuring and testing of 1,435 kilometers of coaxial cable and 743.6 kilometers of symmetrical cable; the construction and installation of over 650 crossings under highways, roads and railroads; the mounting and adjustment of technological equipment in 21 interurban telephone stations -- telephone centers -- 14 semi-terminal stations and 237 unmanned repeater stations.

These are the details on this important technological undertaking, a mainstay of communications in the country's development.

"...500 kilometers in salute to the Second Congress": engineer Filiberto Au Kim, of the Coaxial Cable Directorate. "Construction of the coaxial cable throughout the country is being done by a new enterprise set up in the Ministry of

Communications and called the Coaxial Cable Builder. To date, 371 kilometers of cable have been installed and the goal set for the Second Congress of the party is 500 kilometers. Workers are satisfied with progress on the project.

"The Construction and Assembly Enterprise of the ministry has also begun to install and mount technological equipment for the coaxial cable in Havana City. Work will soon begin in Matanzas. In addition, civil engineering works contracted for with the Ministry of Construction are being completed, and the plan for 1980 includes such projects in 11 provinces.

"Construction and assembly work planned for this year will cost some 11 million pesos."

"Great technical and economic importance": engineer Victor Loktin, chief of Soviet advisers. "Cuba's soil is extremely varied. In some places it is soft, which reminds me of the Soviet Union, but generally, we have rocky soil. The most productive method is working with a cable layer. The mechanized column now working in the municipality of San Jose de las Lajas has six tractors and few workers on the job. The cable is laid quite rapidly.

"Here we use mechanized cable laying, but since the soil is rocky, we first make use of explosives and excavators to open up the trenches. In soft soil, it is not necessary to open trenches with explosives and excavators because the cable-laying machine has a knife that makes a narrow trench and then puts in the cable and covers it up. I believe that this project is of great importance to Cuba, both technically and economically."

11,464
CSO: 5500

BRIEFS

SATELLITE STATIONS ESTABLISHED--Muscat--The government is making preparations to set up more satellite earth stations in the sultanate of Oman to facilitate telecommunications. The minister of posts, telegraph and telephones, Mr Karim Ahmad al-Harami, said yesterday that one of the stations would be set up in the island of Masirah. The minister, who was speaking during a national day address, stated that the government was planning to set up a postal training school in Oman. He said that a public telephone system would be introduced soon in the sultanate which has 23,000 telephone lines. Describing the satellite earth station located at a-Hajar as the main source of communication between Oman and the outside world, the minister hoped that by 1990, about 100 million Omani riyals would be invested in telecommunications and postal services. [Text] [GF151420 Dubayy KHALEEJ TIMES in English 14 Nov 80 p 2]

CSO: 5500

'PANA' TECHNICAL COMMITTEE MEETS ON TELECOMMUNICATIONS NETWORK

AB200726 Kinshasa AZAP in French 1720 GMT 18 Nov 80

[Text] Kinshasa, 18 Nov (AZAP)--The Technical Committee of the Pan-African News Agency, PANA, meets in Dakar from Today until 26 November 1980 to take stock of the telecommunications needs of the national news agencies and the equipment necessary for each member state's posts and telecommunications network. The meeting also aims at drawing up a list of the needs of member states in order to allow the setting up in the short term of a PANA telecommunications network and to inventory the existing means of transmission and those to be set up by PANA at its Dakar headquarters and at the headquarters of the regional pools in order to define the links between pool member states, pool headquarters and PANA headquarters and conversely.

The work schedule includes the examination of documents concerning the five pool headquarters, that is Khartoum for the East African pool, Lusaka for the Southern African pool; Kinshasa for the Central African pool, Lagos for the West African pool, Tripoli for the Northern African pool, and finally the headquarters in Dakar, Senegal.

Participants will also have to examine documents concerning PANA member states: Sudan, Ethiopia, Somalia, Kenya, Uganda, Tanzania, Seychelles, Mauritius, Djibouti, Comoro Islands and Madagascar, which form the East African pool; Zambia, Lesotho, Botswana, Malawi, Swaziland and Mozambique, which form the Southern African pool; Zaire, Angola, Rwanda, Burundi, Cameroon, Gabon, Central African Republic, Chad, Sao Tome and Principe and Congo, which form the Central African pool; Nigeria, Gambia, Ghana, Sierra Leone, Liberia, Senegal, Ivory Coast, Mauritania, Niger, Mali, Upper Volta, Guinea, Guinea-Bissau, Cape Verde, Togo and Benin, which form West African pool; and Libya, Egypt, Tunisia, Algeria and Morocco, which form the North African pool.

The Technical Committee, which includes Algeria, Cameroon, Guinea, Mauritius, Kenya, Libya, Nigeria, Senegal, Sudan, Zaire, and Zambia, will adopt at the conclusion of its deliberations a report and recommendations that will be submitted to the directors of the national news agencies and to the intergovernmental council which will meet next year.

Also attending the meeting is the International Telecommunications Union represented by Mr Abdelhak Benkirane, special adviser and chief engineer for telecommunications.

CSO: 5500

BENDEL STATE TO HAVE POWERFUL TELEVISION STATION

Enugu DAILY STAR in English 29 Oct 80 p 16

[Text] Bendel State Government will soon get a powerful television station. The house of Assembly has passed a motion mandating the state governor, Professor Ambose Alli, to take immediate steps for the project.

When established, the proposed television station, it stated, should be comparable in standards to the British Broadcasting Corporation and the Control Broadcasting Service [as published] in London and America respectively.

The motion sponsored by Mr V.E.E. Ogun (NPN Agbazilo North Constituency) also calls on the Governor to speed up the present expansion and modernization plans of Radio Bendel to enable the station carry out its services to the people of the state effectively.

Arguing his motion, Mr Ogun lamented that the present operational deficiencies of both Radio Bendel and NTV Benin had compulsorily subjected Bendelites to both informative and cultural messages from other states. He also argued that the signals of both stations were not received in most parts of the country.

He contended that with the establishment of a state owned television station, the proposed open university by the Federal Government would be met with success.

Some minority members, however, opposed the motion because of poor state finances, arguing that the allocation of wave lengths for television transmission was a federal subject, since it is in exclusive legislative list.

CSO: 5500

GOVERNMENT ORDER ON RADIO LIMITS STILL IN FORCE

Enugu DAILY STAR in English 31 Oct 80 p 12

[Text] The Federal Government policy on radio broadcasting which limited state stations to some specific areas of coverage is still in force.

This was stated by the director-general of Federal Radio Corporation of Nigeria, Mr George Bako, in a Current Affairs Programme of FRCN, Enugu, Talking Point.

Mr Bako pointed out that since the policy was an act, anybody who contravened it was liable to prosecution.

He explained that sanctions had not been brought against some states which violated the policy because of an act of leniency on the part of the Federal Government.

According to Mr Bako, the Federal Government realised that broadcasting equipment were expensive and hard to come by, hence it decided to allow some of the states time to comply with the provisions of the Broadcasting Act.

In answer to another question, Mr Bako said that the corporation planned to establish a second radio channel to be known as FRCN-2 in each of the state capitals, to devote greater broadcasting time to the main language of each state.

In this way, he said, the corporation would be fulfilling in a greater measure its objective of grassroots broadcasting.

Commenting on the articulated views that the standard of news reading in the FRCN Network service was falling because of the corporation's policy of pulling in news readers from the state stations.

Mr Bako pointed out that was an obvious result of most expansion programmes, especially in broadcasting.

The FRCN Director-General said that the problem of correct pronunciation of Nigerian names was a continuous one because of the linguistic and dialectal differences, adding that very many names of people and places were even pronounced differently in the same ethnic group, depending on what part of the ethnic group one comes from.

Mr Bako therefore said that what FRCN was working hard to do was to make each news reader come as very close as possible to the correct pronunciation of unfamiliar names of people and places.

CSO: 5500

LAGOS STATE SUES MINISTRY OVER TV CHANNEL WITHDRAWALS

Lagos DAILY TIMES in English 4 Nov 80 p 32

[Text] The Lagos State Government has taken the Federal authorities to court over the withdrawal of the television frequencies and channels previously allocated to it.

In an affidavit sworn to at a Lagos High Court, the General Manager of the Lagos State Broadcasting Corporation, Mr. Ayo Okesanya, joined the Minister of Communications, the Director of Telecommunications, and the Federal Attorney-General as defendants.

Mr. Okesanya said his corporation applied to the Director of Telecommunications for allocation of television channels and frequencies and that it later received a reply granting the request.

He also swore that his corporation then arranged and paid for three 10/1KW T.V. transmitters with transmitting accessories, masts, microwave link equipment, programme input equipment, picture transmitter, test assembly and civil works for mast foundations at a total of N1,916,776.61.

The general manager said that the above gadgets, together with vital accessories, costing N3,529,434.10, were bought and installed in readiness for the take-off of the Lagos State Tele [as printed]

Mr. Okesanya said that to the consternation of his corporation, the director of communications wrote to withdraw all the specified approval granted.

He added that the Lagos State Broadcasting Corporation had been suffering great financial losses which, he said, would continue as long as the purported withdrawal continued.

Mr. Okesanya therefore urged the court to rule that the purported withdrawal of the licence was illegal obstructive, void and therefore of no legal effect.

CSO: 5500

NIGERIA

EXTERNAL TELECOMMUNICATIONS SAID HAMPERED BY P&T

Enugu DAILY STAR in English 4 Nov 80 p 5

[Article by Arthur Ezenekwe]

[Text] The effective linkage of Nigeria with the outside world through the Nigerian External Telecommunications Company (NET) is seriously being hampered by the slow pace of development in the Post and Telecommunications Department (P and T).

This was made known at a press conference in Lagos by the Acting Chairman of NET, Chief A. Ola Yesufu.

Giving examples of the problem, Chief Yesufu said that while the international direct dialing telephone service has been introduced from some P and T exchanges in Lagos area to overseas, "this service cannot be made countrywide at present because P and T exchanges are not yet equipped for such facilities."

Chief Yesufu said that the service which enables subscribers to call oversea numbers direct without the assistance of operators could be provided nationwide if all the P and T exchanges become equipped for it.

He pointed out that as of now, 80 customers have applied to the P and T for another service, but their applications have not yet been approved and consequently the NET cannot make the necessary international connections.

The service is a point-to-point one which connects an office in Lagos to another one overseas, but as a rule applications have to be made through the P and T since it is responsible for the provision of the machines and the necessary connecting lines.

Chief Yesufu pointed out that a recent ₦40 million satellite earth station project embarked upon by the NET in Kujama, near Kaduna to connect international communications to the northern parts of the country would not have been necessary if the P and T has an effective internal network communications to do the connection from Lagos.

He said more of such satellites are planned for other parts of the country as long as the problem lasts.

He noted that if the Federal Government granted NET right of installation of overseas telecommunications services in the country, customers would get such services without tears.

Chief Yesufu also lamented the continued treatment of the NET as part of the civil service in terms of remuneration which has demoralised hardworking staff of the company owned by the Federal Government.

CSO: 5500

MINISTER REVIEWS TELECOMMUNICATIONS PROJECTS

Johannesburg THE STAR in English 23 Oct 80 p 11

[Article by Carolyn Dempster]

[Text]

South Africa could become the laughing stock of the world if the Post Office did not offer the newest services being made possible by micro-electronics, the Minister of Posts and Telecommunications, Mr Hennie Smit, said yesterday.

He was speaking at the opening of the 31st Congress of the Telecommunication Association in Port Elizabeth.

"Micro-electronics is becoming essential not only in telecommunications but also in medical services and in every field of industry, manufacture, transport, printing and consumer products. If we do not employ micro-electronics, we will not remain competitive in the world market," the Minister said.

DIGITAL SYSTEMS

Among the innovations being introduced by the Post Office to keep up to date with developments were two digital electronic telephone switching systems.

The first system (the German EWSD) had already been installed in Sunninghall Park, Johannesburg, and should be operational within the first quarter of 1981.

The second system — a French E10 was presently being installed in Pretoria. Because of special adaptions to enable the use of the standard South African Protea telephone, the installation of the E10 would take a little longer, but extensions to existing systems would eventually provide for an additional 6 500 lines in the Pretoria area.

It was expected that by the year 2005 only digital electronic exchanges would be in service.

ELECTRONICS

The telex network was also being modernised and expanded and with the recent introduction of an electronic computer exchange, the Post Office was now providing a direct dialling service to 110 foreign networks in 79 overseas and 19 African countries.

The vast developments in the fields of micro electronics had been seen by trade unions as a cause for concern over job opportunities.

In his opinion such fears had been proved invalid, as in the long term growth potential would be stimulated and not hampered by the introduction of micro electronics.

NO REDUNDANCY

"I foresee no staff redundancy problems as far as the Post Office is concerned," he stated.

Despite the fact that the Post Office installed 206 070 telephones from April 1979 to March 1980, the demand still exceeded the supply. Over the same period the demand for telephones increased by 40 000 — largely as a result of requests from the black residential areas.

CSO: 5500

MPOMA EARTH SATELLITE STATION DESCRIBED

Kampala UGANDA TIMES in English 9 Oct 80 pp 16, 21

[Article by Betty Matoru]

[Text] USING Mpoma earth satellite station, Uganda will link direct to more than 105 member countries of Intelsat via Satellite above the Atlantic Ocean towards the end of this year.

This will mean that a subscriber will be able to ring direct to London, New York, Bombay or anywhere else from an office or home in Uganda.

Mpoma Station situated on Kyagwe Road about five kms from Mukono town, belongs to the standard 'A' satellite system. The antenna in its final stages of assembly by a Japanese firm, Nippon Electrical Company will face the Atlantic Ocean where Uganda's telecommunications traffic is heaviest.

This will replace the country's standard 'B' system assembled by the Harries Corporation of the United States in 1977 at Ombachi, in Arua and Kololo in Kampala. The Ombachi station went off air at the height of the liberation war in 1979.

Uganda decided to enter satellite communication independently after the collapse of the East African Community in 1976. Before that Kenya, Uganda and Tanzania were together operating the Longnot satellite earth station since 1970.

So far in 12 months the Uganda Posts and Telecommunications Corporation has spent about 50m/- in running the stations. Apart from the limited number of circuits, the country was still tied to London and bound to build more stations of this type to boost internal telecommunications radio and television.

Although radio and television are occasional, Ugandans would be able to enjoy programmes from distant countries on special arrangement.

The operation of the satellite is fully automated. Its control room is provided with a video monitor to indicate faults and give appropriate remedies.

The station has 150 channels which is enough to meet Uganda's needs for the next 20-30 years. It opens with 30 channels, 12 circuits in the international pool and 24 telex circuits.

As traffic increases more channels will come into service, and it is expected to grow with the rate of rehabilitation and reconstruction of the country's shattered economy and social services.

Satellite communication experts believe that the choice of standard 'A' will bring in foreign exchange. The cost of leasing a circuit from the International Telecommunications Statellite Organisation- Intersat —which operates satellite communications into the world is 620 dollars on standard 'B' per unit per month and 420 dollars on standard 'A'.

The satellite project which pulls Uganda out of its limping telecommunications services will cost about 50m/- in civil works and about 90m/- in electrical equipment. It is believed that in about five years the project should pay back the investment besides serving the taxpayer satisfactorily and earning some foreign exchange.

As Uganda Posts and Telecommunications Corporation prepares for rehabilitation, a number of countries and organisations have expressed the desire to assist the corporation in rehabilitating and reconstructing its services, following the successful conclusion of the liberation war.

So far the corporation has received more than 3m dollars in aid for the rehabilitation of telecommunication services both internal and external.

The projects are to include restoration of high capacity telecommunication links between Kampala, Masaka and Mbarara with sufficient capacity to cater for communication beyond these towns with spurs to Kigali, Bujumbura in Rwanda and Burundi. It will also connect Bukoba and Goma in Tanzania and Zaire respectively by means of 960 microwave network.

In addition the aid is meant to restore rural radiocall services between Kampala and remotely fixed-mobile stations all over the country.

The aid will also cater for the conversion of Kololo domestic satellite earth into a standard 'B' international station. This will enable the corporation to make facilities for TV and radio broadcasting services.

In Kampala, much damage was done to subscriber equipment by looters who pulled receivers from premises, towed switchboards from office and helped themselves to teleprinters.

Until the final assessment of the damage is made, the corporation may require no less than 1,317m/- for rehabilitation, reconstruction and development programme stretching up to 1984.

Mbarara and Kabale are back on telephone service following the rehabilitation of the telecommunications links between Kampala, Masaka and Mbarara.

The rehabilitation process continues and future plans envisage modern electronic exchanges for Masaka and Mbarara.

CSO: 5500

NEW TELEVISION STATIONS DESCRIBED

Kolwezi Station

Lubumbashi MJUMBE: LE QUOTIDIEN DU SHABA in French 22 Aug 80 pp 1, 6

[Article by Mufindu Makaya: "TV has Arrived!"]

[Excerpts] Since 1600 on Sunday 17 August of this year, the Kolwezi land station has been picking up the first television images.

Built on the site of Katonto, 30 km from the city, which visually dominates the urban subregion of Kolwezi, this center will provide television coverage for a significant area of 70,000 square km, more or less.

Its beam not only extends over the territory of the Kolwezi subregion, but it will also carry the image from Zaire beyond our national borders by means of a SECAM [Sequential Memory Color] K 2 process color transmitter with 2 x 1 kilowatts of power.

In his speech Citizen Makela Manputuka, the director of the project, stated that the completion of the Katonto Center is the result of important improvements on the Lubumbashi-Likasi-Kolwezi radio-wave section. The improvements focused on the three points and included the electrification of 90 percent of the Hertzian relay stations and the almost total elimination of turbo-alternators operating on kerosene. Also noteworthy is the addition of a third transmission channell and the rehabilitation of all of the telesignaling, telesurveillance and telemeasuring systems.

Continuing his speech, Citizen Makela said that automatic-starting generating unit was installed at the Katonto Center to make up for the inadequate electric motor distributed by SNEL [expansion unknown].

Addressing the guests more particularly, the director of the Rezatelsat project confirmed that this station was inaugurated in the context of the Executive Council's desire to give all of the country's sons and daughters the same chances for economic, cultural and social development.

In closing, he thanked GECAMINES [General Quarries and Mines Company] for the commendable aid it continually contributed during the 40 months of work that led to the completion of the Katonto Center. He then congratulated the Thompson engineers for assembling and installing the equipment, the Yves Office, which has the control mandate, and the Malta Forrest Enterprises.

Kambove Rezatelsat Station

Lubumbashi MJUMBE: LE QUOTIDIEN DU SHABA in French 25 Aug 80 p 3

[Article by MBM: "The Inauguration of the Kambove Rezatelsat Station"]

[Text On Wednesday 20 August of this year the secretary of state for Posts and Telecommunications, Citizen Mwamba Mukukwila Nkoy, conducted the official inauguration of the Kambove Television Broadcasting Center. The assistant regional commissioner, Citizen Salumu, and the Likasi subregional commissioner, Citizen Koyagialo Ngbase, accompanied the secretary of state as he moved about Kambove.

The installation of the Kambove Color Television Transmission Center follows the 100-watt black and white transmitter installed several years earlier by GECAMINES for the information needs of its personnel and the inhabitants of the urban subregion of Likasi.

With regard to the new center, whose power is 2 x 1 kilowatt (active reserve, which is to say that in case of a transmitter breakdown there is still transmission, because the other one automatically picks up the signal), its video signal comes from Kinshasa, by satellite between N'Sele and Lubumbashi, and then by radio waves from Lubumbashi to Kambove, via two relay stations, Tumbwe and Luafi.

The Kambove station has been in operation since February 1979. But the work was accomplished in two periods: the two-axis phase in 1974 and the Rezatelsat phase in 1979.

8946
CSO: 5500

TELECOMMUNICATIONS MODERNIZATION IN SHABA DESCRIBED

Kinshasa ELIMA in French 3 Sep 80 p 8

[Article by Maniak Osiok]

[Text] The ONPTZ [Zairian National Posts and Telecommunications Office]/Shaba is entering a new era, characterized by a modernization of its equipment and machinery.

In fact, several months from now, according to the statements of its regional technical director, Citizen Kabamba Katondo, two new electronic, telephonic and telex exchanges will go into operation in Lubumbashi, to replace the present ones.

With its electronic equipment the problem of tone in telephone conversation, which is the object of incessant demands on the Office by subscribers, will no longer arise. Also, telex subscribers will be able to contact their Kinshasa correspondents directly and automatically, without going through the exchange.

It should be pointed out that since last December semi-automatic operation has existed in the telephone area between Lubumbashi and Kinshasa. It is experimental and is to last six months. There are provisions for automating the Kamina and Kalemie telephone exchanges too, as well as for renovating the underground cables for the city of Lubumbashi.

Three Land Stations

Concerning the satellite land stations, Shaba has three, in Lubumbashi, Kamina and Kalemie. These three stations are accompanied by television transmitters. The result of the acquisition of this equipment is a heavy increase in telecommunications traffic, not only within the region but also with Kinshasa and the other regions.

Connection Soon Between Zaire, Zambia, Mozambique and Zimbabwe

On the other hand, a reliable source reveals that there will soon be connection between Zaire, Mozambique, Zambia and Zimbabwe.

This initiative can only come about through the negotiations that have been engaged in between these four countries since the last summit of their chiefs of state in Lubumbashi. As far as our country is concerned, this will enable it to acquire exact information on the arrival of merchandise being shipped by way of the other three countries.

8946
CSO: 5500

BRIEFS

COMMUNICATIONS SATELLITE LAUNCHED--Moscow, 17 Nov, TASS--A new communications satellite Molniya-1 was launched by the Soviet Union on Sunday to maintain distant telephone and telegraph radio communication as well as transmission of national television programmes to the Orbita network of reception stations in the Soviet extreme north, Siberia, Far East and Central Asia. The satellite has been put into a high elliptical orbit with an apogee of 40,651 kilometers in the Northern Hemisphere and a perigee of 640 kilometers in the Southern Hemisphere. The orbit has a period of 12 hours 16 minutes and an inclination of 62.3 degrees. Apart from equipment to beam television programmes and maintain distant multichannel radio communications, the satellite carries command and measuring complex instrumentation as well as orientation, orbit correction and power-supply systems. The onboard equipment is functioning normally, communication sessions with the Molniya-1 satellite will be held as scheduled. [Text] [LD171302 Moscow TASS in English 1300 GMT 17 Nov 80]

CSO: 5500

REJECTION OF NORDSAT TO SET BACK NORDIC COOPERATION

Copenhagen BERLINGSKE TIDENDE in Danish 3 Nov 80 p 7

[Commentary by Gunnar Naesselund, deputy chairman of the presidium of the Nordic Council, former manager of UNESCO's communications program and manager of Ritzaus Bureau at present]

[Text] Among the people who participate actively in Nordic cooperation or regard it as a positive element in the existence of the Nordic countries, widespread fear prevails at the moment that a "no" to Nordsat will unleash a new wave of disappointment among the populations of the Nordic countries and of criticism of politicians for hesitancy and narrow-mindedness.

It is inevitable that such reactions will be expressed if Nordsat breaks down over the shape which it has been proposed the idea of Nordic cooperation should take at present, but they will have little nourishment on which to survive for a long time.

In the first place, there is discussion of only one of many alternative possibilities for making use of a new communications technology which, up to the present, has neither been very strongly rooted in political motives ("to provide the people with voting alternatives") nor in a desire to strengthen Nordic cooperation in the cultural domain (who, at any time, ever asked television viewers and radio listeners what they wanted?)

In the second place, with regard to cultural policy, extremely alarming reasons for taking action are being discussed which actually did not come up for debate until after the present preliminary-studies directives had been prepared--specifically, to protect Nordic culture against influences from abroad in the future.

If one could control cultural development by means of regulations regarding what is offered--that is, favoring Nordic channels--one might very easily get into an unfortunate situation where the great majority of viewers would ignore what was offered and find ways and means to get what they wanted to have. If, for example, in Denmark and Norway, one wanted to regard Nordsat as a cheap way of acquiring television channel number 2--or of conforming to interests on the Faeroes, in Greenland and on Iceland--one would first have to make sure, in any case, that one had settled it in one's own mind that the needs had been clearly expressed and the manifold nature of the technical means available had been considered sufficiently thoroughly in the affected areas. Denmark may well be the Nordic country whose viewers, when confronted by a clear arrangement of all the alternatives (if such a thing is conceivable), would be the most likely to reject the idea of Nordsat for their own part as it is proposed at the present time. Its technical and cultural scope, as compared to the expense involved, is unconvincing.

In the third place, Nordic cooperation in regard to obtaining increased opportunities to see each other's TV programs or to get more out of television technology jointly is not coming to a stop just because the idea of Nordsat has to be abandoned. National, economic and cultural policy considerations will constitute the basis for the governments' final answers on the Nordsat project, and they certainly will not provide motivation for charges of a lack of belief in the importance of Nordic cooperation in the field of cultural policy (and definitely not in the field of telecommunications, where Nordic cooperation is exemplary in most other respects). Nordic cooperation is built on the principle that no country should need to agree to anything if it believes that thing to be against its own interests. That cooperation is cooperation among sovereign nations, and there are few people in the Nordic countries who think it would be advantageous for everybody if we had been on the way toward a new Kalmar Union today.

Is it not a sign of weakness in Nordic cooperation, then, that the big ideas all seem to be going to undergo shipwreck? It can be argued with just as much justification that it is a sign of its strength that the big ideas are brought forth under Nordic cooperation and are tested on as objective and well-thought-out a political basis as possible. Where the Nordsat project is concerned, it is essential to note that opinions regarding its timeliness and its consequences have been so divided that political decisions in one direction or the other have an extremely flimsy basis in any case. In that situation, arguments of a national orientation will naturally carry more weight than those of Nordic orientation.

In reality, the Nordsat plan indicated a noteworthy willingness on the part of all Nordic governments to enter into serious, and sometimes expensive, testings of new ideas to expand Nordic cooperation in an international situation where mutual support and cooperation can possibly be expected to facilitate getting problems solved. The driving force for this intensification of Nordic cooperation comes not only from the 78 active members of the various parliaments, whose role in that cooperation is that of individuals who take the initiative, but also from the governments themselves.

The governments have taken the initiative in setting up a joint economic research council which is to determine in what fields the Nordic countries can advantageously act jointly for the purpose of mitigating or averting the economic crisis. They have gotten a comprehensive investigation under way for the purpose of determining whether the Nordic countries' research resources can be exploited more effectively through closer cooperation. They have gotten a number of cooperative activities under way in the energy field and, on the basis of the Nordic Council's preliminary work, they have gotten a program of identifying, and perhaps removing, obstacles to the closest possible industrial cooperation across the various frontiers under way.

Coordination which is directed outward is being intensified in many areas. The Viking exhibition and the coming "Scandinavia Today" campaign in the United States are a couple of examples of this. Additional vigor is now geing imparted to practical cooperation directed outward by an agreement concerning the exporting of projects. The purpose of that agreement is to strengthen the Nordic business community in competing for big projects abroad.

In the field of cultural policy, it is a piece of good luck--and something of a coincidence--that, at the same time the Nordsat project was being settled, people are working on an evaluation of cultural cooperation up to the present (the principle motive power for which is provided by the Secretariat for Nordic Cultural Cooperation in Copenhagen) in the areas of education, research and general culture in the 1970's as a basis for discussion at the coming session in Copenhagen from 2 through 6 March 1981 on Nordic cultural-policy cooperation in the 1980's. At any rate, a conference which was recently held in Goteborg by the Nordic Council and was concerned with the Nordic cultural community indicated that if Nordsat does not come to anything that will not be regarded as a catastrophe among those who are active in cultural cooperation. There are enough ideas, and unquestionably there are needs which it would take several million kroner to satisfy if one could hope to get the cultural cooperation funds increased in compensation for the lack of a Nordsat solution--which failed to make its appearance. The debate also showed that the primary need in the cultural field in the Nordic countries is more contact and better exchanging of information across the borders, and, in this area, human contact which can contribute to inspiring all the Nordic countries to assist in the advancement of the many cultural personages in those countries is particularly needed. The conference was clearly characterized by the realization by all those attending of the value of preserving a pattern in the development of the Nordic cultural community which was as many-sided as possible. As a motto, the debate could have used Piet Hein's aphorism: "If one is not himself, he is no one. If one is himself, he is everybody, for we recognize ourselves in each other's different characteristics."

If anybody has heard that Nordic cooperation is stagnating in bureaucracy and collapsing illusions, that is only a small part of the truth.

What actually exists, above anything else, is a far-reaching network of contacts, consultations and concerted actions in a large number of important areas where cooperation takes place, with everybody aiming at making it easier and simpler to move around everywhere in the Nordic countries, to benefit from each other's experience, to act jointly wherever it is profitable and to support each other abroad wherever that will strengthen the Nordic countries' positions.

But bigger and bigger problems also actually exist with which we are confronted in those areas where the Nordic community now is encountering the greatest challenges in connection with the critical international situation: preservation of the welfare society which has given the Nordic countries their outstanding international reputation.

In this situation, the Nordic Council, as the regional body standing for cooperation by five sovereign states which, however, are very closely related to each other in ideological and historical respects, should be able to take a vigorous attitude toward practical measures calculated to result in a policy of continued fair distribution under conditions of less intensive growth. Before a more active effort can be expected within the Nordic Council, there first must be, among other things, more self-assured planning during the preparatory work for the yearly sessions, a concentration of attention on essential problems in committee work and at the sessions themselves and discussion of the assignment of priorities to the resources that are available to the process of cooperation which bears a strong political stamp.

The people of the Nordic countries have a desire for much better information regarding what they are getting for their money than the present sessions provide a basis for. In many other countries, the Nordic model is such an important alternative that it would cause astonishment and disappointment if the Nordic Council's sessions themselves do not give evidence, in the debates which are more concerned with basic principles, of the consciousness that brings the most outstanding politicians of the Nordic countries together in a public forum once a year.

9266
CSO: 5500

FIRM DEVELOPS ADVANCED SATELLITE RECEIVING STATION

Oslo HANDELS OG SJOFARTSTIDENDE in Norwegian 23 Oct 80 p 13

[Article: "Danish Industry Presents Minisatellite Receiver:]

[Text] Probably one of the smallest and least costly receivers' for satellite navigation is now being presented in Oslo by the Danish company Rauff & Sorensen A/S. The receiver's performance level is equal to the advanced equipment in the market, as demonstrated to shipowners, authorities, and Norwegian dealers by Director E. Rauff. The receiver, developed in cooperation with Danish universities, among others, weighs less than 5 kilograms. It is the first satellite receiver for navigation developed in Northern Europe.

Director Rauff states that the receiver, the "Shipmate RS 5000," will be produced in a model especially adapted for fishing vessels and the yacht market, and another model will be produced for larger vessels. The production, to begin at the end of the year, will be on a large scale. Deliveries to the Norwegian market will begin in next February. The first series will be of 1,000 units.

Director Rauff states further that the sensationally low price of 19,900 kroner is due to high production volume together with a new technology. "For the large-ship model there is a small extra charge for the interface. The almost sensational publicity and feedback we have received in more than 15 shipping countries indicate that we have the right product at the right time and at the right price," Rauff continued.

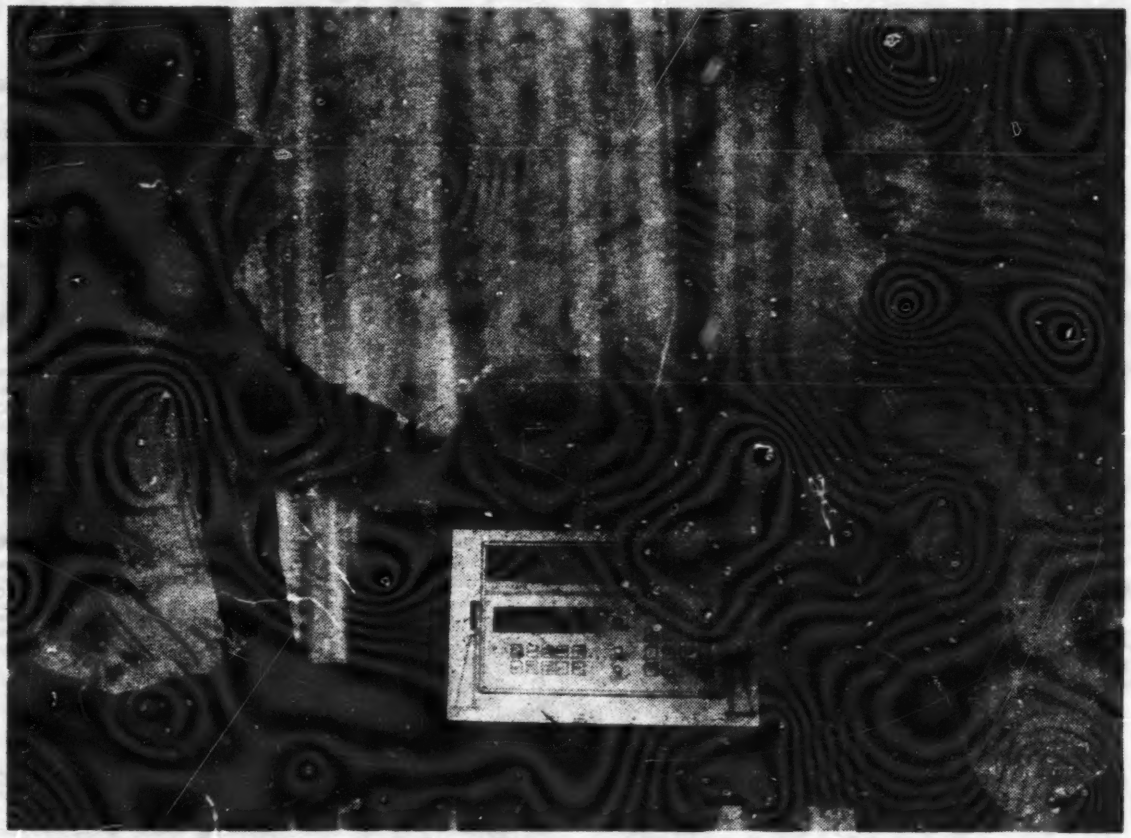
The price of the receiver can be compared to that of radio direction finders or the annual rent of an ordinary navigator. In our opinion nothing prevents our satellite receiver from becoming a standard navigation instrument for vessels of all sizes."

Fuel Savings

During the demonstration it was pointed out that satellite navigation as a system can cause fuel savings of 1 to 2 percent by means of frequent and faultless updating of position from satellites. In certain cases the savings have recovered the purchase price in less than 1 year.

High Reliability

The low current consumption of 12 watts makes it possible to use the equipment continuously aboard, for example, a sailboat with a 12 02 24 volt battery. A built in nike [nickel-iron] battery will provide current for the computer memory for up to 30 days.



It was also stated that the navigator is coupled to an antenna with a built in amplifier that compensates for heavy rolling and pitching.

Operation is very simple and fully automatic. Position data are shown on a print-out screen that updates the position every 10 seconds.

Manager Bjorn Thue of BT Electronics A/S, general representative of "Shipmate" products in Norway, stated that one of this country's largest maritime electronics suppliers will within a short time be allotted the marketing in Norway.

After the successful presentation at the Globetrotter Hotel, demonstration will be given in Stavanger and Bergen and at the coast to the north.

11,256
CSO: 5500

OFFICIAL TELECOMMUNICATIONS AGREEMENT EXPLAINED

Paris ELECTRONIQUE ACTUALITES in French 3 Oct 80 p 9

[Article by D. Levy]

[Text] The Telecommunications Division of Jeumont-Schneider and the Jobin Yvon Division of Instruments, Inc. have just concluded an exclusive cooperation agreement for the development of optical applications in the fields of telephony, telemetry and bureautique [office computer machines]. This cooperation is aimed at the creation of a whole range of opto-electronic switching and transmission systems and products. It is based on the worldwide fame of Jobin Yvon in recorded or holographic plates and monochromators and on the competence of Jeumont-Schneider in temporal electronic telephony.

Thanks to the experience it has acquired in opto-electronics, heretofore oriented toward scientific research and instrumentation, Jobin Yvon is planning to play a significant role in communications using optical fibers. Its strategy is on two levels: On the one hand, it will now make available to all industrialists wishing to utilize the transmission of information by optical fibers adapted components such as multiplexing and demultiplexing polychromators to take in and put out information transmitted by optical fibers. Second, it has concluded an exclusive cooperation agreement with Jeumont-Schneider in order to jointly develop new optical systems to be used in telephony, telemetry and *bureautique*.

Telephone and Optical Expertise

The agreement made between Jeumont-Schneider and Jobin Yvon fits into the framework of future communications systems. The two partners are in agreement on one important point: The temporal automatic switch will be the key to future telemetric and *bureautique* facilities.

Jeumont-Schneider made a remarkable achievement with its private temporal automatic switches and to date, has received orders for over 750,000 telephone lines. It has sold over 10,000 of its Jistel 31 model. In 5 years, the company has gain a solid foothold in the French private telephone market with 25 to 28 percent of the total (400 million francs in turnover for equipment produced alone). Moreover, it is beginning to harvest the fruits of an aggressive export policy (22 percent of the turnover this year). Actually, its automatic switches are being sold in over 15 countries, including Saudi Arabia, Colombia, the United States and Tunisia.

The firm is highly aware that the future of the telephone depends on communications by optical fibers. It has also decided to play an important role in *bureautique*. That is why it has filed its dossier with CODIS [expansion unknown], together with CERCI [expansion unknown]. For Jeumont-Schneider, *bureautique* is considered to be the interconnection of the automatic telephone switch with a computer. The constant increase in the flow of information will require the use of means of transmission and optical switching (wide-band automatic switches).

Jeumont-Schneider believes it will be able to find this "optical complement" in cooperation with Jobin Yvon, which has become a world leader in the field of recorded or holographic plates and monochromators (its range is from near and remote ultraviolet to infrared). The firm is oriented toward instrumentation, mainly producing spectrophotometers, spectrofluorimeters, transmission spectro meters, and so on. It has developed integrated optical devices and designed variable wave lasers leading to applications in analytical spectrometry.

This experience will make it possible to offer builders of transmission systems by optical fibers a number of multiplexing and demultiplexing devices using optical fibers (up to six fibers at present). These are devices that will interest all optical cable makers and that will be found commonly in wired cities that follow the Biarritz experiment (where only duplexers will be used). However, the firm would certainly like to see some of its products at Biarritz!

11,464
CSO: 5500

BRIEFS

LEGALIZED CB RADIO--It has just been announced that CB radio is soon to be legalized in France. There are already more than 100,000 CB radios in France. They are now to be legalized on a frequency of 27 mhz with a power of two watts, transmitting on frequency modulation with a maximum of 22 channels. This means that many existing sets will have to reduce their power. People using model aircraft will be allotted a new frequency, probably 41 mhz. [Summary] [LD201210 Paris Domestic Service in French 1200 GMT 19 Nov 80]

RADIO-TV BOARD MEMBERS--In this morning's official gazette there is a decree which names the state's representatives on the management boards of the four radio and television program companies for the coming period, namely, from 1 January 1981 to 31 December 1983. The names are for TF-1: Jean-Louis Guillaud; for Antenne-2: Maurice Ulrich; for FR-3: Claude Contamine; and for Radio France: Jaqueline Baudrier. The four who are the outgoing chairmen and director-generals will thus remain at the management board of their respective companies and will most probably be reappointed to their offices. It is learned from a reliable source that they will probably be appointed for 3 years by a decree passed by the Council of Ministers at one of its last meetings of the year. [Text] [LD241052 Paris Domestic Service in French 0800 GMT 23 Nov 80]

CSO: 5500

DUTCH INTERESTED IN EUROPEAN 'L-SAT' COMMUNICATIONS SATELLITE

Rotterdam NRC HANDELSBLAD in Dutch 8 Oct 80 p 13

[Article by Sjoerd van der Werf: "Netherlands Want Important Share of New Satellite Program"]

[Text] The Dutch space travel industry wants to gain a large share in the construction of the European satellite L-Sat. It is a new type of artificial moon for various communications purposes, such as direct television, teleconferences, etc.

Europe

It is generally assumed that a large market for this type of satellite will develop in Europe and elsewhere. But a lot will have to be done to conquer a big portion of this market because the competition from France, Germany, and American will be fierce.

British and Dutch space travel experts came to this conclusion during a discussion meeting held Tuesday in Utrecht and dedicated entirely to the L-Sat program.

P.F.J. Linssen, head of the space travel section of the Dutch Institute for the Development of Airplanes and Space Travel, pointed out that the L-Sat--its first demonstration model will be launched with an Ariane rocket (later versions will also be put in orbit with the American space shuttle) towards the end of 1984--will be a hot sales item.

This is one of the most important reasons that so many existing technical devices which proved to be reliable will be put into it; a lot more than in a purely scientific satellite, like, for instance, the Dutch Iras.

According to Linssen the Netherlands would have preferred first of all for various industries to cooperate in putting the L-Sat together and for cooperation between various governments to take second place. However, these things are done somewhat differently with Esa projects. The central issue is then cooperation between governments; moreover, many more (and also smaller) partners will be playing a role. France and West Germany, which have been working together on a television satellite for some time, could have an advantage in this respect. According to Linssen, however, that cooperation does not appear to be very harmonious.

Television Satellite

The Netherlands, at least as user, has probably little or no interest in the satellite. At the most, it will buy such an L-Sat (commercial price about 60 million dollars) in cooperation with other European countries.

These satellites could also be interesting for commercial television. Luxemburg is therefore looking into it. The situation is completely different in Italy and Canada. Italy appears to want four L-Sats and Canada wants three of them.

Research indicates that between 1983 and 1999 a demand for about 192 big satellites of the L-Sat type will have developed. Thirty-six to 48 of these satellites could be made in Europe.

One Basket

Linssen warned however, that as regards space travel The Netherlands should not put all its eggs in one baskst. L-Sat is indeed an exceptionally interesting project but one must see to it that more ambitious plans--with all kinds of new technologies--will also be given a chance.

That should be the case with scientific satellites in particular. Linssen is also convinced that the money The Netherlands would invest in L-Sat will probably be spent for only 50 percent within its borders. With a satellite for scientific purposes the Dutch share would almost entirely be spent within its borders.

In conclusion Linssen pointed out that the Dutch should really not be too modest. He thinks: "We happen to be good at big things and should not belittle ourselves. We should therefore try to become partners in the L-Sat construction project. If we become only subcontractors we will have missed this opportunity."

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CSO: 5500

'STANDARD TELEFON' GETS EXCHANGE ORDERS FROM ABROAD

Oslo HANDELS OG SJOFARTSTIDENDE in Norwegian 22 Oct 80 p 4

[Article: "STK Orders for 30 Telephone Exchanges from Developing Countries"]

[Text] STK [Standard Cable and Telephone Company, Inc.] recently received an order for 30 telephone exchanges from Papua, New Guinea, 27 exchanges from Zambia, and 4 exchanges from Indonesia. The STK's deliveries of telephone exchanges will in 1981 amount to over 40 million kroner.

The exchanges, of type "Metaconta Rural," were developed by the STK for use especially in small towns and settlements. C. M. Stephen, Indian minister of communications, recently visited Norway. He and his delegation had conversations with, among others, Gen Dir Kjell Holler and Technical Director P. Mortensen of the telecommunications administration. The delegation also visited Standard Telephone and Cable, where they watched production of telephone exchanges and other communications equipment.

The reason for the visit was that the Indian Post and Telegraph Administration has now for more than a year had an STK-produced telephone exchange in operation in the village of Kosi-Kalan, located between the cities of New Dehli and Agra. The exchange has fully met the expectations of the Indian Post and Telegraph Administration. The exchange was delivered by the STK fully assembled and tested in an aluminum container, the permanent "house" of the exchange.

The Kosi-Kalan exchange is the first electronic exchange in operation in India. It was opened 15 August 1979 by then Norwegian communications minister A. Jordahl.

The Indian communications minister wishes to discuss the possibility of producing Norwegian-developed communications equipment in India. There is great interest in such a project, which would contribute importantly to development of India's telecommunications network. A developing country of the size of India cannot base its telecommunications development on imported material, but must develop its own industry, among other things, in order to reduce the need for foreign exchange and to create employment.

11,256
CSO: 5500

NEW SHIP-TO-SHORE RADIO SERVICE SYSTFM TO START

Oslo HANDELS OG SJOFARTSTIDENDE in Norwegian 22 Oct 80 p 11

[Article: "New Radio System Promises Greater Saftey at Sea"]

[Text] A far more reliable radio system for emergency and safety communication at sea is now being developed. Fully developed, it will be established in international shipping before 1990.

So says Consultant Bernt Hauge Duborgh of the Norwegian Shipowners Association upon his return from the just concluded meeting in London of the radio committee of the UN maritime organization.

The new radio system, which will be used in all maritime communication, is based on satellite communication and conventional radio telephony, with each user assigned his own number. This means that from ship as well as from shore one can dial any ship participating in the system. Thus compulsory listening hours as heretofore imposed will no longer be necessary.

Traditional Morse telegraphy is not part of the new maritime communication system. According to the radio committee of the IMCO, rapid technological development has made Morse telegraphy unnecessary. The system is based on the assumption that rescue centers are established on a global basis, as decided by the international convention of 1979, Search and Rescue at Sea.

In an emergency situation a ship can by "pushing a button" automatically broadcast distress signals with the necessary information to the nearest radio station, which warns the rescue center responsible for the sea area in question. The new system also provides good opportunities for communication with nearby ships.

For a couple of years a research project has been under way on maritime communication, participated in by representatives of the authorities and employers and employees. The project was initiated under the auspices of the Norwegian Natural Sciences Research council and the Norwegian Ship Research Institute (NSFI), which heads the project.

On the basis of the work in the project, the Norwegian side in IMCO has been able to participate constructively in work upon the new system. The decisions taken at the radio committee meetings must be described as a significant breakthrough for improvement of emergency and safety communication at sea, says Consultant Hauge Duborgh.

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CSO: 5500

NORWAY

TELECOMMUNCIATIONS AGENCY VOWS TO COMBAT PIRATE RADIO

Oslo ARBEIDERBLADET in Norwegian 31 Oct 80 p 16

[Article by Tor Risberg: "The Telecommunications Agency Is Preparing to Jam and Is Declaring Total War Against the Radio Pirates"]

[Text] The Telecommunications Agency is preparing a major offensive in order to get the better of the increasing number of pirate radios. Jamming is part of what will be employed if it is not possible to stop the transgressions in other ways. There is reason to believe that plans are also under discussion for an extensive effort to prevent pirate broadcasts during the election campaign next year.

Chief Engineer Lavrans Grimstveit at the Telecommunications Directorate tells ARBEIDERBLADET that the increase in the number of pirate broadcasts over the FM network has been palpable the last few months. In Oslo, too.

"The problem is about to become very serious. Not only is the equipment illegal, but it interrupts both ordinary broadcasting and other radio communications. We cannot sit still and watch this."

"Therefore we are now thinking of employing jamming when pirates turn up on the air whom we have difficulty in locating. This is especially true of those who broadcast for brief periods and at irregular times. It often takes a long time to find them. A countermove can then be to lay a 'blanket of interference' over the area, which makes it impossible to get out with pirate broadcasts," says Grimstveit. He will not comment on what the Telecommunications Agency's anti-pirate offensive otherwise consists of.

"In our experience radio pirates create especially great trouble for the Telecommunications Agency before elections. What plans do you have for the election campaign next year?"

"This is something I cannot reveal here," says Grimstveit. But he adds that he and his staff possibly will receive communications from the public which come over pirate programs.

"But this is first and foremost a police matter. The Telecommunications Agency will contribute only with technical equipment for location and things of this sort. The rest is up to the police."

Grimstveit does not ignore the fact that several of the many radio pirates have organized themselves into a kind of "pirate network." This is also something which is being investigated by the police.

The most recent confiscation of pirate equipment took place in Stavanger Wednesday night. In cooperation with the police the Telecommunications Agency found its way to a 30-W transmitter in an apartment building in the city. It is the most powerful pirate transmitter the police have ever confiscated here at home.

Three people were caught in the act and arrested. The ringleader, a 27-year-old who has also helped Aage Samuelsen with pirate equipment, can expect a strong clash with the police.

All radio pirates realize that what they are doing is illegal. But when they are caught by the police many claim that the NRK [Norwegian Broadcasting System] monopoly is unconstitutional and that they therefore have a moral right to broadcast without public approval.

"Pirate broadcasts are clearly illegal and consequently cannot be accepted. But I look upon the pirate wave as a clear symptom of the need for a change in the law and for loosening up the broadcasting monopoly," Member of Parliament Lars Roar Langslet (Conservative) tells ARBEIDERBLADET.

Langslet has distinguished himself as the non-socialist wing's most zealous spokesman for a new broadcasting law. "After the last parliamentary debate the monopoly is hanging on a thin thread. I do not think it will be a long time before a loosening up forces its way forward. The pirate broadcasts reflect increasing impatience among people, mostly over the antiquated monopoly principle," says Langslet.

He points out that pirate broadcasts over the radio network are a European phenomenon. In France, for example, the Socialist Party has demonstrated its antipathy to the monopoly by broadcasting illegally. Here at home Aage Samuelsen's broadcasts represent one of several examples.

"Yes, in addition the ministry appears to be loosening up somewhat. The exemption for the students' nightly UKE ["Week"] broadcasts are an indication of this. Even if for the time being it is the only sign," says Langslet.

The Labor Party's spokesman for the broadcasting question, Kjell Magne Fredheim, thinks that the student radio is essentially different from the "loosening up" the Conservative Party is advocating.

"Langslet wants advertising-financed broadcasts for the benefit of heavily financed groups. This cannot be compared with the exemption for students, which, by the way, is not any new practice," says Fredheim.

"Parliament has recently discussed the new broadcasting law and continues to accept the NRK monopoly. The pirates, too, must reconcile themselves to this. When Langslet interprets transgressions as a symptom for a need for changes in the law, I think, incidentally, that he is stretching the approach to the problem rather far."

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CSO: 5500

END

JPRS 76986

11 December 1980

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 152

FOREIGN BROADCAST INFORMATION SERVICE

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JPRS 76988

11 December 1980

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TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 142

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NEW SUBMARINE CABLE TO LINK PACIFIC NATIONS, CANADA

Call for Bids Issued

Wellington THE EVENING POST in English 29 Sep 80 p 12

[Text]

A new transpacific submarine cable system came a step closer to completion with the world-wide calling of tenders for the design, manufacture and installation of the cable system.

The new cable — known as the Anzcan Cable — is intended to link New Zealand, Australia, Norfolk Island, Fiji, Hawaii and Canada. It is expected to cost over $300,000,000.

The chairman of Anzcan Cable, Mr D Rose, said that the cable would rank among the largest single international telecommunications projects ever undertaken.

He said the cable system, comprising over 1000 telephone circuits, would be designed to carry rapidly expanding traffic both within the Pacific basin and between Asia, Europe and the Pacific basin through the use of interconnecting facilities.

Tenderers will have until February 16 1981 to prepare their submissions before evaluation starts.

Security Considerations

Auckland THE NEW ZEALAND HERALD in English 3 Nov 80 p 4

[Text]

NZPA London

The security of the country has been put forward as a major reason for New Zealand opting for the alternative of a submarine telephone network as against a satellite system.

"New Zealand must look at submarine systems as well as satellite systems for communication," said a spokesman for Standard Telecommunication Systems.

"This is not simply a matter of cost, but of national security. If any country cut out the satellite system, where would New Zealand be?"

New Line

STS is one of the companies bidding for a share of the action in the "Anzcan" contract, said to be the largest ever single cable system order.

The Anzcan system will cover an 8000 nautical mile route from Canada to Australia and New Zealand, and when completed will carry nearly 2000 telephone circuits.

The new line will replace existing circuits installed 20 years ago, and will run from Sydney through Norfolk Island, Fiji and Hawaii, to Vancouver. A direct line will extend to New Zealand from Norfolk Island.

"It's cheaper to install the line from Australia to Vancouver, with a side-line down to New Zealand," the general manager of Standard Telecommunications Systems submarine systems, Mr Graham Lawrence, said.

Total Value

The STS view is that the New Zealand Government will find this arrangement particularly attractive because New Zealand will not be completely dependent upon Australia. In the past, this has posed problems because of Australia's industrial problems within the telecommunications system.

STS estimates the total value of the project to be about $400 million. It says the cost of the New Zealand line will be between $25 and $30 million, and that it will supply about 600 circuits.

Of this, the New Zealand Government will carry about 10-15 per cent of the total cost, Canada about 15-20 per cent, and Australia about 55 per cent.

Negotiations are likely to start again in February next year, while the date for completion has been set at 1984. However, tenders are now being accepted which put the completion date at mid-1985.

CSO: 5500

BRIEFS

UNDERSEA COMMUNICATIONS SYSTEM OPENS--Tokyo, 28 Nov KYODO--Ceremonies marking the opening of an undersea communication cable system linking Japan and South Korea were held in Tokyo and Seoul Friday morning. The 280-kilometer cable connects Hamada, a city in Shimane Prefecture facing the Sea of Japan, with Pusan in South Korea. The cable was laid 70 centimeters below the seabed at a cost of some yen 5.5 billion under an agreement concluded between Japan and South Korea in June 1978. The new cable system has a capacity equal to 2,700 phone circuits, resulting in a drastic improvement in communication between the two countries. Up to now, Japan and South Korea was linked by the 384-circuit scatter communications system. The ceremony in Tokyo was held at the Hotel Okura and that in Seoul at the Sejong Cultural Center. During the ceremony, Ichiro Yamanouchi, posts and telecommunications minister, exchanged greetings with South Korean Communications Minister Kim Ki-chol. [Text] [OW280309 Tokyo KYODO in English 0238 GMT 28 Nov 80]

'ANTARA'-'PTI' SATELLITE LINK ESTABLISHED--New Delhi, 27 Nov (AFP)--The Indian News Agency PTI and the Indonesian News Agency ANTARA have begun exchanging news on a direct 24-hour satellite circuit, PTI announced today. The link is the first of its kind established between India and Southeast Asia, the agency said. It added that the link was part of PTI's programme of expansion of its foreign service as well as the non-aligned news pool operations. PTI recently signed a contract with the New China News Agency, XINHUA, in Beijing for exchange of the news services. [Text] [BK271430 Hong Kong AFP in English 1302 GMT 27 Nov 80]

CSO: 5500

AUSTRALIA

FUTURE OF CABLE, SATELLITE-ASSISTED TV DISCUSSED

Sydney THE SYDNEY MORNING HERALD in English 20 Oct 80 p 11

[Text] The broadcasting industry had been left in some confusion by the Federal Government, the chairman of directors of John Fairfax Ltd, Mr J. O. Fairfax, said yesterday.

In the opening speech at the Australian Association of National Advertisers' 1980 convention at Surfers Paradise, Mr Fairfax said the Australian Broadcasting Tribunal was about to hold an inquiry into the introduction of cable and pay television.

"Yet only a week ago the minister announced that supplementary licences would be granted to regional television stations and that these new channels could be used for pay or subscription television, which frankly seems to me to be preempting the tribunal's inquiry," Mr Fairfax said.

"Such a use when combined with satellite transmission could open up some dramatic possibilities.

"It must be hoped that the inquiry gives detailed consideration to the extent of the demand for cable services, what they will cost, and the claims to some participation from present broadcast operators.

"But as far as Australia is concerned, the most significant influence in the 80s will be exercised by the domestic satellite, due to be available in the latter half of the decade.

"It is clear when this satellite system becomes available the private sector will be one of its major users, if not the major user."

Mr Fairburn said that while he applauded the Prime Minister's statement that private enterprise should have a minority stake in the satellite, it was not clear how the stake would be accommodated.

"I believe it important that all interested private enterprise, including all television operators, should have equal access to the satellite, and I hope the Prime Minister's statement can be taken as confirmation of this point," Mr Fairfax said.

"The advent of the domestic satellite will have profund influence on the television media. The private ownership and convenient location of ground transmitting and receiving stations open up many possibilities for program, sport and news exchange, and development of networking.

"Private enterprise, emerging as one of the major users of the first generation system, must be allowed to develop in an environment free of bureaucratic restriction while recognising the necessity for ensuring orderly control without monopoly of the spectrum and resources available.

Mr Fairfax said John Fairfax Ltd took action last year to preserve competition within the industry.

"When News Ltd attempted a takeover of the HERALD and WEEKLY TIMES we acted to help preserve its independence, as did Queensland Newspapers--and not least continued press competition in Adelaid, Brisbane and Perth," he said.

CSO: 5500

SATELLITE USED TO KEEP TRACK OF WHEAT CROP

Sydney THE SYDNEY MORNING HERALD in English 20 Oct 80 p 11

[Article by Andrew Stone: "Sky Spy To Keep Tabs on Wheat"]

[Text] A satellite, 950 kilometres overhead, traces across NSW and records the edges of the wheat belt.

It flashes a signal which is picked up by a tracking station at Alice Springs.

Converted on to tape and taken to the Australian Landsat Station at Canberra, the messages are unscrambled by computers and picture images.

And 10 days later in Sydney, the Grain Elevators Board of NSW decides on the basis of this high-altitude surveillance that it will not need as many grain waggons in the western region.

This imaginary sequence was outlined yesterday by Mr Eric Leggett, a specialist in remote sensing with the NSW Department of Agriculture.

Mr Leggett said the completion of the Canberra Landsat station last week marked an important step forward in the satellite program.

Previously, participants in the program had to wait until information was sent from the United States, which took at least six weeks.

Participants, including government departments, planning agencies and mining companies would now have access to data in 10 days.

Mr Leggett said Landsat would be valuable for estimating crop areas and production and allow the patterns of land use to be followed.

The satellite passed over the same spot every 18 days, allowing changes and growth of a crop to be monitored.

"This will be extremely valuable to the wheat industry," he said. "If the State's grain-handling agency knew how the crop was going, it could marshal grain waggons and know exactly where it was with its storage system." The Department of Lands will handle information from the satellite in Sydney.

CSO: 5500

PLUG-IN FM PAGING SYSTEM ON THE MARKET

Canberra THE FINANCIAL AUSTRALIAN in English 20 Oct 80 p 7

[Text] A new plug-in FM paging system, claimed to be the latest development of space technology, is now available in Australia.

Called Telecourier 800, it is a highly functional Swedish system designed for direct and discreet communications by either voice or bleep.

Allan Electronics and the FFE Group, who are marketing the unit in Australia, claim it is ideal for both large and small business applications.

Three variations of Telecourier 800 are available, depending on the range involved and the facilities provided.

It is anticipated that the system "800M" which is designed for direct paging to personnel where the total area to be covered is relatively limited, will be the biggest market, mainly because there is no elaborate or costly installation.

The unit can be just plugged in and used.

The system is installation-free because of a built-in one watt transmitter and a detachable rubber antenna.

FM provides clearer reproduction of all signals with no distortion.

Incorporating microprocessors as its "electronic brain" the unit's sleek keyboard, compact size and light weight is said to give a real advantage to the operator with restricted workspace.

The 800M's keyboard pages one receiver at a time and has a standard capacity of 30 receivers, but can be extended to cover 100 as an option.

Eleven different bleep messages are available. Each paging is repeated automatically three times, but can also be pre-set to repeat from one to 255 times if required.

Group calls can also be activated with this unit, which is specially designed for office situations where personnel moving from one area to another can still be directly contacted.

Anyone within a three-storey building complex can receive either voice or bleep messages.

The paging receiver is slim and shaped to fit into the breast pocket. The reversable clip enables it to be carried in the waistband while retaining the full display functions of the receiver.

When the life of the battery expires, the carrier of the receiver is told automatically.

Charging contacts for receivers with re-chargeable batteries swiftly send an absent indication signal to the keyboard when inserted in the charging rack.

To cover large area FFE and Allan Electronics can offer a bigger Telecourier system called the 800C. This is powered by a 5 watt transmitter giving wider coverage and more paging possibilities—up to 1000 receivers--although the keyboard remains the same size. [paragraph as published]

Any selection of call numbers can be programmed under each key; for example, a group of doctors, a fire fighting team or simply any frequently paged person.

The emergency signal is then sent until cancelled and of course does not disturb normal paging. If required, these preselected group pagings can be started automatically. For example, by connecting one of the keys to a fire alarm system, the entire fire fighting team will be paged automatically in the event of a fire.

CSO: 5500

PHILIPS AWAITS TELECOM OK FOR NEW TELEX SYSTEM

Canberra THE FINANCIAL AUSTRALIAN in English 20 Oct 80 p 2

[Text] "Changing the face of telex while simutaneously laying the foundations for the 'automated office communication networks' of the 1980s."

That's the modest assignment set for a new communications control system, according to Mr Claude Fosseprez, director of Philips Telecommunicate Industrie BV of the Netherlands.

"Despite the world-wide reach and international standardisation of telex, many firms have tended to shy away from telex when modernising their non-voice communications facilities, given the choice of greatly expanding their communications department or financing an expensive computer-based switch."

The new DSX-40, according to Philips, has been an answer to this dilemma.

It is a highly sophisticated "office communications controller"--a computer for telex, text and data traffic.

With the advent of the microprocessor, the unit is affordable, and in terms of office productivity should make advances comparable to those of the small business computer or the telephone PABX.

Earlier this year, Philips sold 30 DSX-40 switching systems to the Swedish Telecommunications Administration (STA) in a $2 million contract.

The company is waiting for the unit to be approved by Telecom for use in Australia. According to a spokesman, the company is ready for local release and doesn't expect any problems in getting Telecom approval.

Advantages

"As an established supplier of large-scale telecommunications computers to multinational corporations, as well as to common and specialised carriers, Philips has long been aware of the advantages which systems of this kind could bring to office communication," Mr Fosseprez said.

"However, it has only been with the development of microprocessors, sufficiently powerful, inexpensive and reliable, that the in-house, non-voice switching system has been economically justifiable for the average firm."

As with a voice PABX, the Philips system concentrates the traffic of terminals connected to it, switching calls automatically on an as-needed basis.

Unlike voice traffic, however, telex messages, as well as text and many forms of data, are generally time-insensitive, and do not require transmission in real-time on a circuit-switched basis.

Accordingly, the DSX-40 operates on store-and-forward principles--messages are accepted, stored, manipulated and forwarded automatically--providing increases in the levels of terminal availability and circuit utilization, and totally revising traditional ideas of telex transmission.

The DSX-40 is typically associated with the use of modern office teleprinters. In a representative 40-line configuration, these user terminals will be dispersed throughout an organisation (usually at secretarial work stations) and linked directly to the switching system via 50 to 300 BPS connections. Remote locations, such as branch offices, may be connected to the system via leased lines.

While the primary application of the DCX-40 will be store-and-forward switching of time-intensive information such as administrative messagea and memos, the system also supports a circuit-switched "dialog" mode of operation. [as published]

This permits real-time communication between user terminals' subscribers on the public telex networks, enabling firms to conduct financial and other traditionally "on-line" transactions via the DSX-40.

In contrast with the personnel requirements of the conventional telex room, which is becoming increasingly difficult to staff, the DSX-40 needs only a single system supervisor (usually an experienced telex operator with a one-week training course on the system).

The supervisor, who is responsible for providing occasional manual help to users, entering system commands, requesting reports, and general monitoring of system conditions, need not be present at all times.

Messages can be transmitted in unattended mode, at night for example, to take advantage of the lower tariffs offered in certain countries during non-office hours.

Routine procedures which in the past have been performed manually--locating telex codes, dialling, redialling busy numbers, verifying answer-back codes, logging and so on--are all executed accurately at high speed by the DSX-40.

CSO: 5500

TREND TOWARD GREATER CENTRAL CONTROL OF BROADCASTING

Canberra THE FINANCIAL AUSTRALIAN in English 20 Oct 80 p 10

[Article by Linda Gray: "Fairfax Hits Media Control"]

[Text] There is a disturbing trend towards greater control of the broadcast media which should be of more concern, according to the chairman of John Fairfax Ltd.

Mr James Fairfax said this when addressing the 700 representatives of the media and the advertising and marketing industries gathered in Surfers Paradise for the Australian Association of National Advertisers Convention.

"There is a movement abroad in the community for greater freedom and access of information for the press. But there is no similar movement taking place on behalf of the broadcast industry."

Mr Fairfax said the broadcasting industry was and would continue to be in a state of confusion while there was no clearly defined government philosophy on the electronic media.

Mr Fairfax also admitted there was some truth in the fact that media oligopolies existed, but that these were formed as economic forces and they were not confined solely to media interests.

Defending Fairfax's extension of its own media interests in the recent share battle with News Ltd for control of the HERALD AND WEEKLY TIMES group, Mr Fairfax said the company had acted "to preserve the independence" of the HWT and if it had not done so 75 per cent of the country's significant newspapers would have been controlled by News Ltd.

This was as close as the chairman of Fairfax would come to addressing the question of the probable investigation by the Australian Broadcasting Tribunal of the group's holdings in HWT.

CSO: 5500

HOME TV, COMPUTERS TO BE LINKED IN DATA SYSTEM

Brisbane THE COURIER-MAIL in English 21 Oct 80 p 3

[Text] Telecom is investigating a system that will link TV screens and computers in a huge information network.

The system, called Videotex, links TV screens through an ordinary telephone line into the computer information system.

Modern TV sets can key into the system using an attachment that next year should cost between $200 and $300.

This would allow business and home TV screens to be used to read the news, theatre guides, advertisements, on encyclopaedia, stock market details, foreign exchange rates, and just about any other accessible, desired information.

Last night, Telecom manager Videotex marketing, Mr Scott Sanderson, demonstrated the system to Brisbane businessmen and women.

"There is no proposal to the commission, or the minister, but we are actively investigating establishing a system in Australia," he said.

Mr Sanderson demonstrated the possibilities with a system linked to the British "Prestel" operation, which has more than 150,000 pages of information stored.

He demonstrated how to book a hotel in Saudia Arabia without leaving your TV screen, and keyed up news on the Australian election provided free by the BIRMINGHAM POST and MAIL NEWSPAPER group, and showed quotations of Australian stocks in London, as well as looking at yachts for sale there.

There is a small charge for most of the information.

"The system has been in operation for 18 months in England and is available to the public. There are 6000 subscribers, and almost all are in business," Mr Sanderson said.

If the operation started in Australia he expected it would be used mostly by business, with the travel industry playing a large role. "I believe it would be about five years before there are big numbers of domestic users," he said.

CSO: 5500

RADIO, TV USED TO SUPPORT MINING DEVELOPMENT

Brisbane THE COURIER MAIL in English 21 Oct 80 p 26

[Article by Gunter Stephan, communication officer with the Ranger Project: "The Electronic Role Is Crucial"]

[Text]

Minerals exploration for the last 15 years has been one of the most exciting and glamorous aspects of Australia's development.

Central to the success of our mining ventures over the years, however, have been the vital but barely visible products of the electronics industry.

High-quality communications and control systems have become the heartbeat of modern-day living, and in the '80s high technology systems spawned by the electronic revolution will continue to play a pivotal role in the extraction and processing of our natural resources.

According to the Australian Telecommunications Development Association, the mining industry has poured tens of millions of dollars into sophisticated electronics instrumentation and communications equipment to help transform isolated outback mining ventures into viable projects.

The systems are dedicated to myriad tasks, ranging from controlling the extraction, analysis and processing of the vast mineral wealth of our nation to the vital task of keeping all parts of these self-contained enterprises in touch with one another and the outside world.

Near Jabiru, a remote part of the Northern Territory where Ranger Uranium is getting its first yellowcake venture underway, Australia's telecommunications engineering skills are fulfilling important roles both in the mining activity and the social structure of the community.

Amid the key communications projects in hand is a proposal to Ranger to later this year construct its own television channel.

The TV station will have a business tie-up with a Darwin channel 250 km away but will be fully equipped with its own video recording, monitoring and processing equipment, transmission gear and antenna.

Ranger has already shortlisted a number of ATDA member companies to supply the electronics wizardry needed to get the station airborne.

The move into television follows the launching earlier this year of Radio 8JB.

Performing as a broadcast repeater station, 8JB receives radio programs over landlines from Darwin which are then rebroadcast on 747 KHz, using Ranger's own transmission systems and antenna.

The TV and radio stations, however, are only the glamorous surface affectations of a more fundamental half-million-dollars-plus communications system which will make the Jabiru project hum.

Recently commissioned was the heart of the network, a PABX system to support a complete in-plant telephone reticulation system.

Over the next year, in preparation for the plant's proposed start-up date of mid-81, Ranger will go to tender for the supply of an extensive paging and communications system comprising loud-speaking and intercom units.

The system will service an ore treatment and processing plant and administrative complex 1km square.

And simple though it may sound on the surface, the unique geographic characteristics of Jabiru which let it boast the highest lightning incidence in the country and extremely high rainfall — humidity levels (they remember 14 in. in 24 hours) mean that installation of the telephone cable reticulation network will require special attention particularly in the provision of lightning conductors.

The main incoming communications link to the project is a 24 channel radio bearer which connects, via a tropospheric scatter repeater station at [illegible], to Darwin.

Ranger is in the market also, for the supply of telemetry equipment from local electronics manufacturers for remote pump control applications. The pumps will recycle waste water from the mine area into the treatment plant.

Already in operation at the site is a VHF mobile radio system consisting of three VHF talk-through repeater systems. This will be expanded to accommodate a growing fleet of mine vehicles.

In line with the ATDA policy which pursues the objective of getting government and private enterprises to capitalise fully on Australia's telecommunications skills, the Ranger philosophy is to give first preference on equipment supply to local tenderers and manufacturers.

In addition to its direct responsibilities associated with the installations of communications systems to serve the mining activities, Ranger will participate in the cost of the telephone network which will service the modern township of Jabiru.

Currently under construction, the township, when complete, will boast all the facilities of a modern city development and will eventually accommodate 3500 people.

And until the arrival of Telecom towards the end of this year, Ranger has accepted responsibility for establishing full telephone services to government departments such as health, education, police and other super-structure needs of the present temporary town.

Anticipated total cost of the Ranger venture is $300 million.

The step-by-step construction of Jabiru vividly portrays the broad economic and social commitments accepted by mining companies to the environments they administer.

It also graphically illustrates the fundamental reliance of business and society on fast, efficient communications and the importance of a viable electronics industry.

CSO: 5500

SATELLITE TELECOM SYSTEM EXPECTED BY 1984

Dacca THE BANGLADESH TIMES in English 28 Oct 80 pp 1, 8

[Text] Bangladesh will have its own telecommunication satellite by 1984, Mr. Moyeedul Islam, Minister for Post, Telegraphs and Telephones said in Dacca on Monday.

The Minister told an airport Press conference on his return from attending 6th meeting of Assembly of Parties to Intelsat Agreement in Venice, Italy that his Ministry was discussing with a number of leading organisation to put the satellite in orbit for Bangladesh.

Meanwhile, he said Government has decided to introduce satellite telecommunication system by 1982 renting part of an intelsat satellite. The intelsat has agreed to rent at nominal fee of 2 lakh dollars between 60 to 100 lines for a period of two years to introduce the system which will revolutionise the telecommunication system ensuring advanced and stable network in the country.

An expert team of the intelsat will visit Bangladesh soon to prepare within two months for approval. Under the plan a series of earth stations will be set up in the country some even at levels or below subdivisions according to necessity. This will also vastly improve the television reception.

The Minister noted that existing system that included the microwave system, was found inadequate to meet the situation and needs.

He said that the immediate need is to improve the internal telecommunication, which required concerted efforts of those concerned with it. He was hopeful that the telephone personnel would work with dedication and sincerity.

The Minister said that the international trunk dialling will also be introduced. The Government has requested the British authorities to enable the T&T Department to introduce London Sylhet trunk dialling soon. New equipment will also be procured from Britain for Barisal which often remain cut off from the rest of the country.

A German expert team will also visit to study measures to improve Dacca-Narayanganj telecommunication system.

The Minister who led a 3-member delegation said that his ministry was trying to introduce new system in the delivery of foreign money order. The system of chequing will be introduced in the post offices as part of the new programme.

CSO: 5500

CORRESPONDENT GIVES DETAILS ON APPLE SATELLITE

New Delhi PATRIOT in English 11 Sep 80 p 10

[Text] This is an apple that goes up, unlike the one that hit Newton on the head and broke up into the law gravity. Apple the satellite goes up sitting with two other satellites on top of European Space Agency's Ariane rocket from French Guiana in Latin America in February next year.

APPLE, short for Arianne Passenger Payload Experiment is totally Indian-made satellite and is a forerunner of future satellites that Indian scientists are working on to bring the country's communication system into the space age.

The 665 kg satellite leaves the space laboratories in Bangalore for France, most probably on 20th September. It will undergo tests for about two months by an international group of scientists at the European Space Agency's Toulouse headquarters and then will be transported to the launch pads in Kourou in French Guiana in Latin America from where it will be launched into space on board the third development flight (LO 3) of Arianne launch vehicle under an agreement formalised between Indian Space Research Organisation (ISRO) and the ESA.

APPLE, a geo-stationary communications satellite (which means that relative to the tracking stations on earth, it maintains an apparently stationary position in space while orbitting the earth) will form the middle component of Arianne's payload, sandwiched between French satellite METESAT and ESA's CAT.

The Indian satellite in fact has been ready since May this year after undergoing a series of intricate tests at ISRO's labs. Its departure for Toulouse, France, had to be postponed because of delays at ESA.

Latest Techniques

Using "state of the art" latest techniques like multi-layered insulation and analytical modelling, APPLE is designed to bridge the technological gap between the Indian satellites launched so far and the generation of future space objects. Indian scientists hope to acquire through it competence in the utilisation of geo-stationary orbital satellites for domestic communication, radio networks, data relay on an experimental basis.

Apart from testing its design, fabrication and its injection into orbit and its "management" while in orbit, APPLE will also take on new experiments like digital communication technology with aspects like its use in teachers training and remote area communication.

APPLE, which will weigh 665 kilogrammes at launch, will be injected into a synchronous orbit around the earth using a solid propellant booster motor which has also been developed indigenously. With its outer covers, the spacecraft looks like a cylinder 1.20 metres in diameter and just as tall.

The solar array drive, reaction control systems, sensors and momentum wheels are mounted directly on the cylinder. Once in orbit, the solar panels will garner the sun rays, convert them into electricity for use in running the systems and instruments on board.

Once the ESA rocket Arianne lifts off from Kourou, the satellite will first go into a "transfer" orbit at a distance of 200 into 35,786 km at 20 degree west over the Equator. Within 65 seconds, its companion satellites, METESAT and CAT and APPLE would have finally separated from each other.

APPLE's own control motors will now spring into action with bursts of the solid propellant firing to bring it into its ordained track across the earth.

CSO: 5500

POST AND TELEGRAPH PLANS THROUGH 1990 REPORTED

New Delhi PATRIOT in English 28 Oct 80 p 7

[Text] The P and T department has drawn up a perspective plan to provide telephone connections on demand by 1990. The Plan, which envisages a Rs. 9,600 crore investment in expanding production of exchanges and equipment has been submitted to the Planning Commission.

The department has estimated it will need about 32.6 lakh lines of local exchanges automatic switching equipment during 1980-85 and another 50.69 lakh lines during 1985-90.

Against this the P and T expects to get 10 lakh lines during the first five years and 10.74 lakh lines by 1990 from existing ITI factories. A decision is expected within a few days on foreign collaboration for the proposed 2 lakh lines of cross bar equipment plant at Rae Bareli and two factories for producing electronic switch gear equipment of five lakh lines each in the next decade.

According to the perspective plan enunciated by Communications Minister C M Stephen at the Ministry's consultative committee meeting in Bangalore recently the department plans to open 3,500 new telephone exchanges and 20,000 public call offices throughout the country.

However, it is estimated that even if the resources become available and the plans can be pushed through the waiting lists are likely to increase further to a peak of about 7 lakh lines by 1985 before the department can start catching up with them.

According to current statistics, Maharashtra circle has the longest waiting list, totaling over 1.45 lakhs at the end of 1979 with Delhi coming second with 64,345 persons still waiting for their phone.

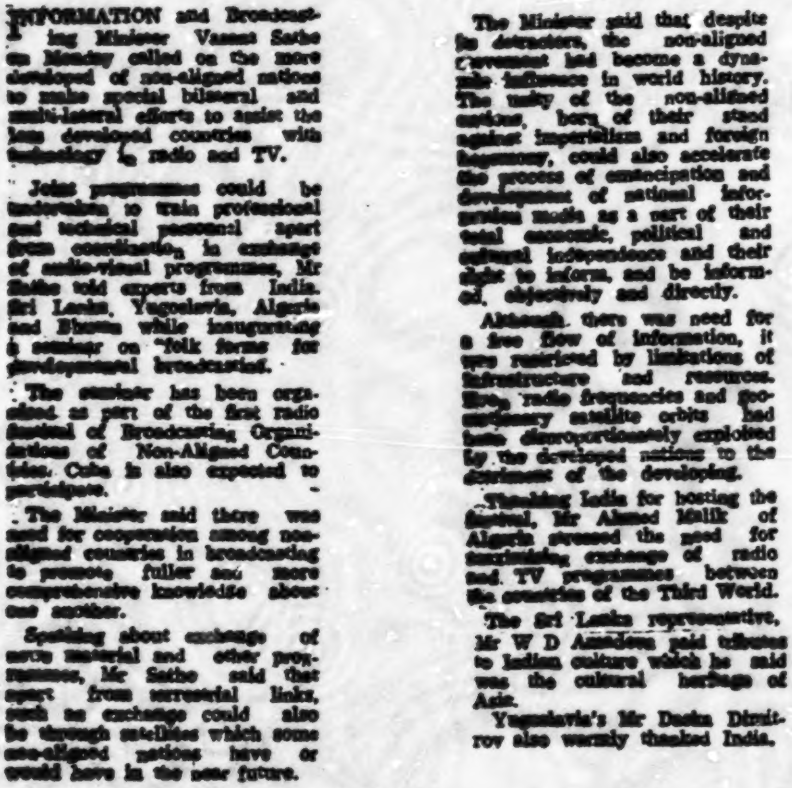
At present 7,429 telephone exchanges are functioning all over the country with 6,147 of them automatic.

CSO: 5500

NONALINED RADIO, TV COOPERATION ADVOCATED

New Delhi PATRIOT in English 4 Nov 80 p 5

[Text]



INFORMATION and Broadcasting Minister Vasant Sathe on Monday called on the more developed of non-aligned nations to make special bilateral and multi-lateral efforts to assist the less developed countries with technology in radio and TV.

Joint programmes could be undertaken to train professional and technical personnel apart from coordination in exchange of audio-visual programmes, Mr Sathe told experts from India, Sri Lanka, Yugoslavia, Algeria and Bhutan while inaugurating a seminar on "folk forms for developmental broadcasting.

The seminar has been organised as part of the first radio festival of Broadcasting Organisations of Non-Aligned Countries. Cuba is also expected to participate.

The Minister said there was need for cooperation among non-aligned countries in broadcasting to promote fuller and more comprehensive knowledge about one another.

Speaking about exchange of news material and other programmes, Mr Sathe said that apart from terrestrial links, such an exchange could also be through satellites which some non-aligned nations have or would have in the near future.

The Minister said that despite its detractors, the non-aligned movement had become a dynamic influence in world history. The unity of the non-aligned nations, born of their stand against imperialism and foreign hegemony, could also accelerate the process of emancipation and development of national information media as a part of their total economic, political and cultural independence and their right to inform, and be informed, objectively and directly.

Although there was need for a free flow of information, it was restricted by limitations of infrastructure and resources. Even radio frequencies and geo-stationary satellite orbits had been disproportionately exploited by the developed nations to the detriment of the developing.

Thanking India for hosting the festival, Mr Ahmed Malik of Algeria stressed the need for maximising exchange of radio and TV programmes between the countries of the Third World.

The Sri Lanka representative, Mr W D Amadewa paid tributes to Indian culture which he said was the cultural heritage of Asia.

Yugoslavia's Mr Dusan Dimitrov also warmly thanked India.

CSO: 5500

BRIEFS

NEW TELEPHONE LINES--President Luis Herrera Campins has inaugurated 5,600 new telephone lines in Lara, distributed as follows: 1,000 in Quibor, 1,000 in Industrial Zone No 2, 1,000 in Obelisco, 2,000 in Cabudare, 500 in Ciudad Cos, 500 in Boaca, 300 in Sonora and 300 in Siquisique.[figures as heard] These lines are part of the program being carried out by the National Telephone Company of Venezuela (CANTV), to expand its services and to provide telephones in areas which never had them, which will allow more Venezuelans to communicate better. [Excerpt] [Caracas Radio Continente Network in Spanish 2100 GMT 21 Nov 80 PA]

CSO: 5500

MOROCCO

BOUARFA'S URBAN TELEPHONE NETWORK IS AUTOMATED

Rabat L'OPINION in French 27 Oct 80 pp 1, 3

[Article: "Automation of Bouarfa's Urban Telephone Network]

[Text] On 22 October the urban telephone network of Bouarfa, the chief town of Figuig Province, was automated. The new installations, which were set up in this town on a temporary basis pending the total automation of the network, have a capacity of 200 lines, the current number of subscribers in Bouarfa being 140.

Work is currently under way for the automation of the network covering all the localities in South Oujda: Jerada, Bouarfa, Figuig, Tendrama, and Ain Bni Mathar.

The equipment for the exchanges for all these towns are already in place and work is under way for the construction of a road leading to Jbel Tissourine, between Jerada and Al Aouinat, where an active relay station, necessary for automating the overall interurban network, will be set up. This program will be finally achieved in the summer of 1981, at which time the inhabitants of Figuig and the surrounding area will also be able to pick up Moroccan radio and television broadcasts and programs.

In addition, the regional services of Posts and Telecommunications are undertaking a vast program in North Oujda which will consist of expanding the station in Berkane, automating Ahfir, and increasing the capacity of the Oujda-Berkane cable.

In Berkane, the construction work is 70 percent completed, and the equipment is already in place.

In Ahfir, the conduits for the cables were completed in 1979 and the automation of this town is linked to the expansion of the Berkane station.

In addition, the capacity of the cable linking Oujda to Berkane, which is currently 60 channels, will be brought to 300 as soon as possible, which, as Boufelja Attigui, head of the regional office of Posts and General Affairs, points out, will lighten the traffic from Saidia, especially in the summer.

The provincial Posts and Telecommunications services are also planning to automate the districts of Taourir and Al Aiaun (Sidi Makhoukh) in West Oujda. Proposals have been made to this end, within the framework of the 1981-1985 Five-Year Plan. The cost of automating these two towns is 4.2 and 1.2 million dirhams respectively.

It is also planned to expand the Oujda station; this will consist of strengthening its capacity, which is currently 4,000 lines. According to Mr Attigui, the number of subscribers on the waiting list is 3,700.

In addition, the Posts and Telecommunications services plan to connect the only two rural communes not yet linked to the telephone network: Al Atef and Ahl Oued Za in the Taourirt region.

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CSO: 5500

NEWS AGENCY OFFICIALS DISCUSS EXPANSION PLANS

LD011541 Royadh AL-JAZIRAH in Arabic 24 Nov 80 p 5

[ISLAMIC NEWS AGENCY-SAUDI NEWS AGENCY (SPA) report: "Khujah and al-Qurayshi Discuss Future of ISLAMIC NEWS AGENCY; Agency Transmits 10,000 Words Daily to 33 Countries"]

[Text] Riyadh--Dr 'Abd al-'Aziz Khujah, Information Ministry undersecretary for information affairs and chairman of the executive council of the ISLAMIC NEWS AGENCY, yesterday had talks with agency Director General Safdar 'Ali al-Qurayshi on future expansion plans for the agency.

Dr Khujah stressed the need to continue to expand the activities of the ISLAMIC NEWS AGENCY in all spheres of news area of the world, according to a well-organized stage-by-stage plan.

It is worth noting that periodic high-level meetings are held regularly in order to supervise the progress of the agency offices established in Islamic capitals. It has been decided to increase the number of offices so as to cover all Islamic capitals and all major world media centers.

The ISLAMIC NEWS AGENCY transmits for more than 9 hours daily and its daily output of approximately 10,000 words is currently received by 20 Islamic states.

The agency also transmits a special daily bulletin in Spanish to 13 American states.

CSO: 5500

BRIEFS

TELECOMMUNICATIONS STATION PROPOSAL--Luanda, 26 Nov (AFP)--The official ANGOLAN PRESS AGENCY, ANGOP, announced in Luanda on Wednesday that Angola will propose the creation of a telecommunications station to be linked with the Indian Ocean satellite during the forthcoming Coordination Conference for the Development of Southern Africa (CCDAA). The agency points out that currently in order to call Salisbury from Luanda it is necessary to pass through Europe. The Angolan telecommunications earth station which provides international communications by satellite is in fact linked to the Atlantic satellite, whereas the majority of Southern African countries are linked to the Indian Ocean satellite. Angola, Mozambique, Botswana, Tanzania and Zambia will participate in the second CCDAA, which opens in Maputo on Thursday. [Text] [AB022024 Paris AFP in French 1140 GMT 26 Nov 80]

CSO: 5500

BURUNDI

BRIEFS

EARTH SATELLITE STATION IN BUJUMBURA--The earth satellite station in Bujumbura where the equipment was installed beginning in June 1980 will soon be in operation. The only work remaining involves planting the grass and building a road to the station. There will be trial runs this week and only after INTERSAT has approved can the station begin to operate. A Ministry of Telecommunications source indicated the station would begin to function in November. Initially, it will provide a direct link with two transit countries--France (Paris) and Kenya (Nairobi) whose installations will connect with other countries. This earth satellite station is of great importance to our economy. Burundi's communications with the outside world will be facilitated because messages will be transmitted by an INTELSAT satellite system. [Text] [Bujumbura LE RENOUVEAU DU BURUNDI in French 21-22 Sep 80 p 1] 9479

CSO: 5500

PARTICIPATION IN INTERNATIONAL PRESS INSTITUTE ANNOUNCED

Victoria NATION in English 27 Oct 80 p 2

[Text]

SEYCHELLES will shortly participate in a new information service designed to provide news on economic affairs throughout the world.

The service, to be run by the International Press Institute with help from the World Bank, will be based in Africa so that it can best reflect the needs of countries in the region.

Regular news letters will be sent out by the IPI's Africa Programme, and final arrangements on their content are being made at a three-day seminar starting in Nairobi today.

A delegate from Seychelles Information Department joins senior media representatives from around a dozen African states to ensure that the news letters will be in the form regional newspapers and radio stations feel they need, rather than being something as western organisations think they should be.

The service was first proposed nearly three years ago at an IPI pan-African seminar in Nairobi, which dealt with economic and financial reporting on the continent.

Several people at that seminar made the point that there are serious gaps in their coverage of major economic affairs simply because they are often unaware of what is going on in the western centres where many of the vital decisions are made.

CSO: 5500

INAUGURATION OF EARTH SATELLITE STATION

Kinshasa ELIMA in French 28 Oct 80 pp 1,7

[Text] The state commissioner for the PTT [Posts, Telephones and Telecommunications], Citizen Tokwaulu Bolamba,went to Isiro Sunday for the official inauguration of the second and third Rezatelsat earth satellite stations for telecommunications; he was accompanied by the Haut-Zaire regional commissioner for administration, Citizen Mpambia Musanga Bekaja, a member of the MPR Central Committee, Citizen Kakule, Political Commissioner Kupa, subregional commissioner of Haut-Uele, Citizen Kasali Kalumbwa Bin Rutuku, all regional notables and many militants.

In his speech, the Rezatelsat director of the telecommunications project, Citizen Makela, noted that the Isiro earth station, another achievement of the Zairian revolution, would continue the integration of Haut-Uele into the work of national development and open new horizons in the subregion in the television, radio, telephone, telegraph and telex communications areas.

Citizen Makela pointed out that great progress had been made with the installation of an imposing communication infrastructure like Rezatelsat and asked the people and especially the technicians to safeguard attentively this national patrimony.

In turn, regional commissioner Mpambia said the inauguration of the station expressed everyone's determination to overcome the problems of inadequate infrastructure.

He stressed how important such an achievement was to forge national unity.

Henceforth, Isiro will no longer be isolated and neglected, he concluded.

After the speeches, the state commissioner cut the symbolic ribbon and visited the installations.

The ceremony was enlivened by the subregional entertainment group and local folk groups who performed under a driving rain.

Technical Information About the Station

The station is built on a surface of approximately 4,000 square meters and has:

-a parabolic antenna 14.5 meters high;

-a building for the telecommunications equipment and two television transmitters, each having a power of one kw;

-a power plant with three generators giving the station reliable energy and great autonomy from the public power sector.

9479
CSO: 5500

FIRM TO PRODUCE JAPANESE EQUIPMENT

Lusaka TIMES OF ZAMBIA in English 20 Nov 80 p 5

[Text]

ITT Supersonic Zambia Limited is to start producing national electronic equipment from Japan under licence, President Kaunda was informed yesterday.

Negotiations between ITT and National Panasonic Radio company aimed at establishing the joint venture have reached an advanced stage and a technical agreement is expected to be signed soon.

ITT general manager Mr Krishna Venkateswaran, said this at State House when he presented Dr Kaunda with an ITT colour television set and a National VHS video cassette recorder.

Mr Venkateswaran was accompanied by two officials from National, the company supervisor for overseas operations Mr Katsuo Chiba and its regional representative for East and Central Africa Mr Toshi Bumi.

The ITT chief informed Dr Kaunda that the company was working on an ambitious programme under which a new range of electrical products would be introduced in Zambia.

"National, who are now ready to work with us, will transfer technology to Zambia which will see us go into production of consumer goods like fans and we have the potential to do this," he said.

Ideal

The company was also looking into the possibility of making rural radio sets which would be ideal for use in the "lima" programme.

In reply, President Kaunda said people who thought capitalism could not work hand in hand with socialism were wrong.

He was happy to hear that National was coming to Zambia because this was a practical interpretation of the transfer of technology from the developed world to the developing one.

"We would like to see National introducing more activities into Zambia as well as bringing in more capital investment," Dr Kaunda said.

He said Zambia's socialist principles called for honesty of purpose and that when the Party and its Government made promises to private enterprise, they meant to keep those made in the past and the ones they would make in future.

"We cannot break our promises, those who think socialism and private enterprise cannot go hand in hand are mistaken because the two can work together," he told the businessmen.

He said there was something in Japanese capitalism which Zambia could learn because it had certain aspects of socialism.

He told the Japanese that when they bring knowhow to Zambia, they should bring their management skills and style.

The President was happy that ITT planned to produce village radios which would be of great importance in the "lima" programme.

CSO: 5500

COMMUNICATIONS, COMPUTER SEMINAR HELD

Salisbury BUSINESS HERALD in English 20 Nov 80 p 1

[Text] MIND-BOGGLING was the only way to describe the latest available equipment in telephones, telex, text and data systems put on display at a seminar held in a Salisbury hotel this week by Philips Telecommunications.

Over 60 businesses, banks, newspapers, financial institutions and government departments were represented at what was regarded by Philips as a major break-through in up-to-the minute equipment that is still new to Europe.

As communications become more important to the development of Zimbabwe's economy and domestic infrastructure the staging of the seminar was timely to say the least.

On hand to demonstrate the equipment were experts from Holland, Sweden and Britain.

Of particular interest to many businessmen was the DKX-40, a desk top telex machine which has automatic switching facilities, priority routing and numerous time saving devices.

It can for instance handle all routine work automatically, make connection with the subscriber, and store and forward information.

Mr Terry Forbes, divisional manager with Philips Electrical in Salisbury said: "At present all telex messages and other data have to be handled manually, and with time-consuming tasks like calling and identifying subscribers, re-dialling busy destinations, numbering messages and checking priorities every time information is transmitted only results in missed opportunities and lost deadlines".

The use of micro-chips, the revolutionary advance in electronics of recent years, means that the days of punching out telex tapes, of waiting for connections are numbered or gone.

Also on display was a range of telephones which make the need for switchboard operators almost superfluous.

Automatic dialling and fingertip control are today's watchwords in this area.

CSO: 5500

BRIEFS

BANK COMPUTER CONTRACT—The Standard Bank has contracted to buy just over half a million dollars' worth of computer equipment and programming from International Computers Central Africa Limited. In a signing ceremony attended by ICL's visiting deputy chairman, Arthur Humphreys, CBE, a contract calling for the supply of four ME29 computers was formalised. The ME29 is ICL's newest mid-range unit and is now one of the fastest-selling computers of its size in the world, with over 600 orders since its launch early in 1980. The Standard Bank will use the computers to assist general accounting and administrative functions at its Bulawayo and Salisbury branches, and to complement existing ICL 1900 equipment. Signing the contract on behalf of the Standard Bank, assistant general manager Mr. 'Sandy' Potter commented that the agreement covered the updating of some of the existing equipment as well as the supply of the new ME29s. [Text] [Salisbury THE HERALD in English 20 Nov 80 p 5]

CSO: 5500

DISCORD DELAYS FRANCO-GERMAN TV SATELLITE PROGRAM

Hamburg DER SPIEGEL in German 3 Nov 80 pp 52-55

> [Text] Quarrels about construction and financing of the first German TV satellite: Bonn and the industry are blaming each other for the foreseeable delay in starting.

The official from the Ministry for Research in Bonn was angry. Constructors and producers in the West German space industry, he demanded at a satellite conference in Munich, should finally present a fixed price; they had in any case "already exceeded" the deadline "by just a little."

The fixed price bid referred to was for an earth satellite, scheduled for launching in 1983/84, which will transmit television programs to the FRG from space. With his reminder two weeks ago, Secretary Wolfgang Finke of the Ministry for Research and Technology surprised not only the participants in the conference--technicians, scientists and media experts--but the satellite manufacturers themselves.

For their part, they have long been annoyed with Finke and Bonn for what they see as obstructive political planning for the so-called direct satellite, which in future will broadcast TV directly to house antennas across the entire country. Previous TV satellites always sent only a directional signal from one broadcasting station to one receiving station on earth.

"We've been going in circles for two years," complains one principal constructor from southern Germany. The launch deadline originally set for the beginning of 1983 is "only a fantasy," and even the countdown that is now planned for the subsequent year's end is "scarcely achievable"--quite apart from the fact that Bonn has "sacrificed hundreds of millions of marks on the altar of Franco-German friendship."

Industry criticism is directed at a Franco-German treaty for the joint construction of a satellite--an agreement which had been reached between Chancellor Helmut Schmidt and President Giscard d'Estaing and signed last April by the departmental ministers. This treaty on technical-industrial cooperation starts with rigid contractual quotas for both sides instead of the actual state of development of satellite technology in both countries. As a consequence, constructors at Messerschmitt-Boelkow-Blohm (MBB), for example, had to "shelve" a solar generator of hitherto unequalled performance developed over five years, the French were promised the production contract and "started more or less from scratch," according to one engineer involved.

Similarly, the construction of the housing, the so-called satellite structure, was transferred to the French national company Snias. Of late the Thomson CSF company in Paris has been trying to acquire the contract for the satellite's amplifying valves, although it can match the two types developed by AEG-Telefunken over 10 years (260 and 450 watts per TV channel) only "with a certain time delay and at the lower limit of performance," as even Finke admits.

By skillfully exploiting the political problems of the media in their own country, the French politicians had won piecemeal bargaining concessions from their friends in Bonn on the direct satellite, with its lucrative export potential. In return, they generously granted the promise that Bonn sought, not to make available a channel on the French satellite which Radio Luxembourg had wanted in order to broadcast a commercial TV program in the FRG.

The first step is the launching of an identical satellite for each country with three channels, using the European Ariadne rocket, in which the French have by far the greatest share of development work. German manufacturers have been promised a 54-percent share in the actual construction of the satellite, compared with 46 percent for their French partners.

Production partners from both countries are watching with distrust a tendency on both sides to make low cost estimates, obviously with a view to increasing real costs drastically and thus increasing their own nation's percentage share of the payments. All the French officials arrived a long time ago at the two-country directorate for the satellite contract in Munich, Bonn, on the other hand, is dilatory in sending its representatives. One German involved in the project suspects that the French would, if possible, "fake us out again with their administrative craft during the allotment talks."

In order to prevent subsequent adjustments Bonn and Paris are insisting on a common fixed price bid from the companies responsible, MBB and AEG in Germany and Snias and Thomson in France. But even the bid that is due soon, the third already for MBB, will probably contain flexibility clauses.

Finke wants to stand firm: "The industry must fulfill the conditions or give up the project." Even the program's critics give credit to officials in Bonn that it has not died long ago.

It was only through their Franco-German community concept that the secretary and his minister, Volker Hauff, succeeded in undercutting considerable resistance among the Social Democrats to the TV-SAT, as it is called, from the party leadership to the chancellor's office.

The reasons for political obstacles of this kind lie in the possibilities of the program. After a test period of about three years, the initial three-channel type (Type "D3") will be followed by a fully operational second TV satellite with five channels. This one, the "D5," has space for the ARD, the ZDF and a radio channel for full coverage of the country; until now about three percent of West German households have been unable to receive television transmissions because they are in the shadow of mountains or high-rise buildings. In addition, the five-channel satellite could broadcast a new European program as well as the first West German private television.

The SPD and the unions have so far not been receptive to the idea of a private TV channel, because they believe, as the Social Democratic media professor, Ulrich Lohmar, said openly in his lecture at the Munich conference on satellites, that "only through the publicly licensed media" do they have "a chance for cooperation" from radio and television. Mainly it is because they have for years felt themselves so under attack by the private media power of newspaper publisher Axel Springer, who has long waited for his television premiere, that they do not trust even the political pluralism mandated by the Constitutional Court for private television.

Not until the Franco-German agreement was the possibility of exporting their transmitters in the sky opened up to the satellite manufacturers, who have not the slightest interest in arguments about programming. Emerging nations without a fully developed broadcasting network are just waiting to turn their inhabitants in the jungles and deserts into instant television recipients with the satellite.

But before interested parties like China or the Arab League complete an order form or sign a cooperation treaty, "they want to see the thing fly and know that it does work," as MBB development head Dietrich Koelle puts it.

If the TV-SAT should be completed one day in spite of all obstacles, there is still one more risky start for those behind the venture. Of four previous launches of the European Ariadne rocket, three have ended in mishaps. Once the rocket crashed and twice it never even got off the ground.

9581
CSO: 5500

NEW CB RADIO REGULATIONS CAUSE FUROR

Hamburg DER SPIEGEL in German 10 Nov 80 pp 90-96

[Article: "Secret Beep"]

> [Excerpt] Approximately 2.5 million West German hobby radio operators are expecting troubles. In the opinion of experts, the new regulations by Bonn's minister for transport, post and telecommunications represent "the craziest idea the world has ever seen in this area."

West Germany's leisure-time radio operators are furious and their reactions are becoming obnoxious to the reform which is to go into effect at the beginning of next year and which Gscheidle calls progress. CB radio traffic is to be expanded by 10 channels to a total of 22 channels and to be converted step by step from amplitude modulation (AM) to frequency modulation (FM); in addition, the Ministry for Post wants to shift CB radio from the 27-megacycle area to the 900-megacycle area over a specified period of time.

Radio operators are afraid that each of the two reform stages will force West German CB enthusiasts to buy new equipment. According to the magazine FUNK, the beneficiary is "a 'holy alliance' between industry and the Ministry for Post."

As a matter of fact, a radio fan who in recent years spent between DM 200 and DM 1,500 for one of the traditional 12-channel AM stations will in the future not be able to exchange a single word with anyone who is going to buy one of the new 22-channel FM sets next year. And: If, as planned, after 1985 CB radio will be operated on 900 megacycles, it will again be necessary to buy new equipment--in spite of the fact that technical conditions will not be any better at all.

The trade journal CB RADIO suspects that in 1985, using the assigned frequencies, people will be able to "send messages around the corner": "A bush drum would be almost as efficient." In a glossary the magazine recommended to its readers that it would be better "to buy a good flashlight and to learn the Morse code."

Radio operators have become so embittered that even political parties and parliaments are now getting involved. CB radio, which was licensed in July 1975 and subsequently regarded by politicians as a rather scurrilous pastime for motorists and pensioners, students and housewives and derided because of its strange coded language ("Asterix is QRV for Quasimodo"), has become a political issue.

According to estimates by those knowledgeable in the business, the number of West German CB radio operators has in the meantime risen to 2.5 million people. For months radio operators have been threatening everywhere with protest actions and a "march on Bonn," and CB associations have been bombarding the Petitions Committee, the Ministry for Post and the Chancellor's Office with angry letters containing thousands of signatures.

Bonn's FDP fraction promptly called a hobby radio hearing, in May CDU and CSU insisted on a CB debate in the Bundestag discussing a proposal for "better conditions for CB radio" and even the European Parliament, in answer to a German request, took up the issue of "radio communication systems of small capacities," as they are officially called.

Apparently, post office administrators and private radio operators agree only on one point: The conditions are miserable on current CB frequencies, which professionals contemptuously call "scrap band."

Ordinary radio operation in the 27-megacycle area faces interference from high-frequency generators, furnaces and welding equipment in industry, as well as from medical equipment and under certain ionospheric conditions from foreign transmitters. "Frequently," CB practioners lament, "one can hear all kinds of scraping sounds and nonsensical talk from Italy but not one's partner."

In addition, the CB channels that have been licensed so far--within a transmission range only one person is permitted to speak at any time--are hopelessly overloaded in congested areas; as a consequence, an extended conversation over a few kilometers can only rarely be arranged. "The chaos of the 12 channels," in the opinion of the Commodities Testing Foundation, "makes it almost impossible to carry on a normal conversation."

In the process, prices "fell precipitously" in recent years, according to a Hamburg dealer. Large electronics enterprises, for instance, Grundig and Blaupunkt, Saba and ITT, have withdrawn from the German CB market.

Pastime radio operation has also become a nuisance for many non-radio-operators. Because most of the CB fanatics want to drown out the competition, they do not stick to the authorized transmitting power of 0.5 watts, but they operate illegal imported equipment or "afterburners," which multiply the output many times and produce electronic environmental pollution.

The consequences are felt by unsuspecting neighbors. As if moved by the hands of ghosts, remote-control garage doors are opening at many locations; mysterious diagonal stripes are appearing on TV screens; sentences can suddenly be heard on house organs and radios, for instance, "Bismarck, come in for Rollmops" or "Lugano has his trousers open."

There is no shortage when it comes to suggestions by CB associations for the reform of hobby radio operators. For a long time ordinary operators have expressed the desire to be granted the same privileges as are currently enjoyed by amateur radio operators who are licensed by the state: A multitude of frequencies, the use of directional antennas, powerful transmitters and permission to communicate also from one fixed station to another fixed station and from one country to another one.

The minister for post, however, is resisting such requests because they could "not be realized within the framework of CB operations," particularly on account of a general frequency shortage. Anyone who wants to make long-distance calls should use the telephone or get an amateur radio license, for which the conditions of admission have recently been "considerably simplified."

The Ministry for Post wants to bring order into the CB mess by making technical changes. The ministry announced that the change from AM to FM "is significantly reducing interferences with radio and television equipment." We will have to put up with the fact that during a transitional period two noncompatible types of CB equipment will exist side by side--particularly since the new mode of operation offers better connections. Berndt Sieverts, business manager of the Hessian radio firm "dnt," confirms that FM communication "approaches the quality of taxi radio."

Experts, on the other hand, expect only disadvantages from the temporary shift of hobby radio operation to 900 megacycles. At the request of the federal government, this frequency was reserved for ordinary radio oepration last year during the Geneva Wave Conference. Experts consider it "extremely critical" (Sieverts).

Banning CB radio to 900 megacycles, for instance, would drastically reduce the transmission range--the same power of operation would only achieve "approximately one-third of the present performance," is the estimate of Werner Dollinger, CSU telecommunications expert and former minister for post.

Reinhard Richter, a radio equipment dealer in Hannover, says, "The few experts are absolutely horrified." Because of strong shadows, transmissions over the authorized frequencies would be received, "alternating as loud roars and inaudible sounds." CB RADIO is informing its readers that, essentially, when using the "quasi-optical" 900-megacycle area, one would not be able to radio any farther than one could see:

"The only person who would have any chance at all would be someone on a mountain top or the top floor of a skyscraper. Mobil radio would no longer be possible. Let us assume you are on level ground (we don't even want to mention mountains), on a straight road, and suddenly a tractor-trailer moves between you and your CB partner. That is the end of it!"

The disadvantages of the 900-megacycle operation could possible be compensated by adding technical attachments--but, in dnt-Sieverts opinion, it "would not be cheap." CSU-Dollinger estimates that equipment for the provided frequencies would cost "approximately DM 2,000."

Bad times are in store for all those who own stationary equipment. Post office officials have disliked home radio operators for a long time. Because they are equipped with comparatively powerful aerial antennas, in many areas fixed stations are blocking the channels with dialogs lasting for hours or with regular rounds of small talk; because of the wireless long-distance conversations, the Ministry for Post is also losing revenues from telephone fees.

To keep down the number of stationary installations, the ministry has to date permitted operation only by license and an annual fee of DM 180 (mobil radio operation, on the other hand, requires no licenses or fee) and conversations between fixed stations are expressly forbidden.

To date Gscheidle's telecommunications inspectors have not been able to enforce compliance with this ban. The small number of radio operation inspectors (CB jargon: "Yellow Peril") driving cars with directional devices cannot distinguish very well when looking at their monitors whether the constantly changing fantasy names among hobby friends from "Maja the Bee" to the"green lightning from Buxtehude" represent at any time a fixed or a mobile station.

To catch violators of fixed-radio operation regulations, Bonn's telecommunications bureaucrats concocted a technical chicanery which according to the original plan was to become a required component of all CB stations beginning in 1981: A built-in "identification signal"; it transmits automatically a coded multiple-sound signal to betray to the inspectors the license number of the station.

But Bonn's post office administrators were not able to get political approval for the identification signal that they favored so much. Parliamentarians of all parties criticized the fact that such additional equipment would almost double the cost of simple sets.

To be able to prevent radio communication between fixed stations in spite of it, the Ministry for Post in recent months developed a procedure which is unique worldwide. According to a guideline issued by the telecommunications central exchange (FTZ), in the future only those fixed CB stations are to be sold and serviced which emit an inaudible "pilot sound" (90 cycles) that automatically tunes out all fixed stations that are operated on the same channel within the transmitting range.

Something which post officials apparently consider a patent solution, is looked upon by independent experts as "the craziest thing the world has ever seen in this area." Richter, Hannover's expert, formulates it this way: "The Ministry for Post is inviting international ridicule."

Describing the consequences of the pilot-tone regulation, Richter said, "When someone depresses the transmitting key of his station, he can silence all the fixed stations in his town. Even if a fixed station is operating quite legally with a mobile station, the touch of the button of a third party is sufficient to interrupt the connection immediately."

Sieverts, dnt-manager, is also expecting the worst: "Whoever touches a key in the future will silence everything within a radius of 50 km." Many of those who will be affected by the inaudible pilot tone from afar, which will tune out their own transmission and reception equipment, probably will subsequently contact the manufacturer and complain about the imagined defective sets.

According to Peter Weber, a manufacturer and importer in Duesseldorf, pensioners and the handicapped, for whom CB home radio sets represent the most important contact with the outside world, will "no longer enjoy themselves when they cannot talk with other fixed stations. As far as they are concerned, CB radio has lost its appeal."

Experts feel that the regulation with the secret beep is so absurd that it seems questionable whether on the appointed date, New Year's Day 1981, CB stations with pilot tones will be available at all from West German dealers. Last week, during a meeting in Frankfurt, representatives of all well-known West German CB firms protested against the "curiosity"; unanimously they urged the Ministry for Post to come up with "a solution which is kind to consumers."

"At any rate," dnt-man Sieverts says, "we will not market a single new fixed station as long as this guideline remains in effect."

8991
CSO: 5500

NEED FOR COMPUTER SECURITY MEASURES SEEN INCREASING

Paris L'USINE NOUVELLE in French 8 Nov 80 p 102

[Article by Daniel Lacotte: "Security--The Computer Takes Fright"]

> [Text] "White-collar vandalism" is gaining ground in France. In the United States, swindles totaled $300 million in 1979. In view of the proliferation of computers and networks, how can protection be provided for the data in them?

The various outrages perpetrated against the Computer (with a capital C) since the beginning of the year will at least have had the merit of making people aware of the problems in protection of data-processing centers. And the proliferation of computers in distributed data-processing (networks) and in the form of small autonomous machines really aggravates matters. For from the small or medium-size provincial firm--which deals with data that are both routine and strategic for it (pay, invoicing, inventory, customer data)--to the computer cnter of the Ministry of Defense or that of Social Security, protection of information is becoming a necessity.

Today, every user of a computer can feel threatened. Not only by particularly violent acts of terrorism (bombs, arson) but also, and especially, by more discreet forms of action that are propagating rapidly. Even a kind of "white-collar vandalism" is taking on disturbing proportions: everyone still remembers the story of the consultant to a big American bank who, by a trick involving electronic transfer of funds, succeeded in putting $10 million into his own account!

For the year 1979 alone, computer crime reached $300 million in the United States. In France, no one can give any figures. It must be said that specialists in security are rare: only one service company (the SEGESI [expansion unknown]) has decided to go into this field. Its boss, Pierre Leroy, is perfectly well aware of the difficulty of his task. To be sure, a security plan would in theory be needed for every computer installed, "but this notion disturbs the data-processing specialists; they feel themselves to be the masters of a system and take a dim view of the arrival of an adviser from the outside, who may challenge the little habits and the organization." Simply for a case in which.... "In reality, the security of a computer center is the business of the general management," Pierre Leroy adds. This amounts to protection that is nearly always insufficient, for awareness of the risks has taken time to develop. Thus, in every data-processing installation the proportion of the investment devoted to security should be 20 to 25 percent. But we are very far from such a ratio."

The protection ot a data-processing center can be approached from three different angles, each of which may be sufficient. In certain cases, though, all three types of action may have to be put into effect.

The first mode of security consists in physical protection of the installations by providing them with prevention and detection means aginst the risks of destruction: fire, water damage, sabotage. Pierre Leroy explains that even in this area, protection is very deficient: "Certain firms may forearm themselves against the physical risks, but they forget that a protection system never functions 100 percent. Thus, when damage occurs, one realizes that no continuity plan has been provided for! The computer is destroyed and computing stops." But in the last 5 years, there have been 50 data-processing center fires in France. And in 35 percent of the cases, they were due to criminal action.

The second type of measure possible has to do with protection of confidential or secret information. The entire difficulty consists in identifying the confidentiality needs, for very often, there are only certain data whose divulgation must be prevented. It then remains to establish access restrictions in function of the degree of confidentiality of these data. In theory, there is nothing very tricky about "isolating" secret information by logical or material means; but in practice, "varileaks, due to inevitable gaps in the organization of work, still exist," it is stressed at the SEGESI.

Deterrence Does Not Always Suffice

Finally, the third aspect of computer security (probably the most complex to put into effect) is protection of the integrity of the data and of the processing of it. What is involved here for the user is to take precautions against the risk of errors or frauds relating to the data or the programs, the risks of falsification or destruction of information, the risks connected with deficiency of control procedures, etc. To do this properly, one must make use of the various data-processing information methods: badges, cryptics, sophisticated codes, etc. Here too, all the principles are known, but the great difficulty lies in getting them accepted in practice.

In any case, one must not lose sight of the fact despite everything, even the most sophisticated precautions will have only a deterrent value. In fact (and even the SEGESI readily acknowledges this), "especially, one must not try to protect everything."

In other words, security--even the best-designed security--cannot replace the insurers! And if the data-processing centers are protecting themselves better and better, it is essentially in order to avoid or minimize the interruptions in processing and ensure resumption of operations in case of calamity. This also proves that the economy's dependence on data-processing is no longer negligible.

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CSO: 5500

END

JPRS 77047

22 December 1980

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 143

FBIS FOREIGN BROADCAST INFORMATION SERVICE

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JPRS 77047

22 December 1980

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TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 143

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BRIEFS

'PANA' COMMITTEE AT DAKAR--Dakar 28 November (PANA)--The technical committee, meeting from November 17 to 26 last at PANA headquarters in Dakar, concluded proceedings by elaborating a nomenclature of African press agencies. This paper defined, at each member country level, the existing transmission means for broadcasting and receiving agency news, as well as the means needed by each country to enable it to participate in PANA activities. The committee also formulated a draft project for a PANA telecommunications network, the detailed plan for which will be realized in cooperation with the ITU and the PATU (Pan-African Telecommunications Union), to ensure the necessary conditions regarding efficiency, reliability and profitability. PANA will also approach the African telecommunication administrations to secure preferential press tariffs. It should be noted that, in addition to the committee member countries, the International Telecommunications Union (ITU) also took an active part in the committee proceedings which were chaired by Mr Sheikd Usmane Diallo, PANA director. [Text] [LD011342 Belgrade TANJUG in English 1632 GMT 20 Nov 80]

BULGARIAN-SYRIAN RADIO COOPERATION--On 27 November Boyan Traykov, Bulgarian Radio director general, and (Fuad Balat), director-general of Syrian Radio and Television, signed a protocol on cooperation for 1981-1982. The protocol envisages the exchange of programs, information and personnel. [AU050934 Sofia RABOTNICHESKO DELO in Bulgarian 28 Nov 80 p 2 AU]

CSO: 5500

BRIEFS

JAPAN-CHINA UNDERSEA CABLE DISCONNECTED--Tokyo Dec 8 KYODO--The Japan-China undersea cable was disconnected Monday due to a suspected break in the wire for the seventh time this year, its Japanese operator Kokusai Denshin Denwa (KDD) said. KDD said the break is believed to have occurred about 540 kilometers off Kumamoto Prefecture, where the communications cable originates from Japan. Similar trouble occurred only about 60 kilometers from the area on November 26. KDD is investigating the causes of the disconnections jointly with China. Communications between Japan and China were switched to a satellite system after the trouble occurred on the undersea cable. [Text] [OW081339 Tokyo KYODO in English 1221 GMT 8 Dec 80]

CSO: 5500

BIDS OPENED FOR DOMESTIC SATELLITE TO COMMUNICATIONS LINK

Ownership Debate

Brisbane THE COURIER-MAIL in English 22 Oct 80 p 15

[Text] Canberra--Tenders for Australia's domestic satellite communications system will be advertised today.

The government said yesterday that notices calling for tenders would be published in newspapers throughout Australia and in overseas publications.

The acting Post and Telecommunications Minister, Mr Fife, said tender documents would be released on October 30 and tenders would close on March 2, 1981.

Mr Fife said the tenders were for the supply and delivery of the $256 million satellite, earth control and communication stations.

Meanwhile debate continued on the system's ownership following the statement by the Prime Minister, Mr Fraser, last week that it would be 49 percent owned by private enterprise.

Strong cabinet and backbench pressure is tipped favoring majority control by private enterprise.

The initial decision, announced on September 18, to allow 100 percent ownership by the Overseas Telecommunications Commission is considered a temporary measure.

The outgoing Post and Telecommunications Minister, Mr Staley, said then that the government "had not ruled out" private enterprise involvement in the system.

However, he stressed that the government would retain the majority interest in any public-private ownership mix.

The Prime Minister's statement has pre-empted an interdepartmental inquiry which was to decide the basis on which private enterprise would buy into the satellite.

On top of this, there is a feeling in the government ranks that the decision to allow OTC to run the system is not irreversible.

The Opposition has accused the government of bowing to intensive corporate lobbying and making behind the scenes deals.

Boost for Phone Network

Perth THE WEST AUSTRALIAN in English 23 Oct 80 p 4

[Text] The proposed launching of Australia's domestic satellite in 1985 would greatly assist the three per cent of Australia's population who have little hope of joining the telephone network, according to Mr Alan Guster, of the Satellite Project Office in Canberra.

Mr Guster, first assis-Satellite Police and Coordination division, was addressing the Broome meeting, attended by many people living on stations in WA who were among the 40,000 people not included in Telecom's next phase of terrestrial development. [as published]

He said that Telecom would have facilities on the satellite, which is due for initial tender on October 30.

Sited 35,000 kilometres above the New Caledonia area, the satellite would be able to beam signals to dishes about two metres across in Australia's remote areas, he said.

Initial plans were for a system called HACRSS Homestead and Community Broadcasting Service) with the aim of sending one ABC television signal and three radio programmes.

They would be beamed across the whole of WA.

A small $1000 dish purchased, or leased, by consumers would be able to receive the signals.

A telephone service available from dishes installed by Telecom would be available at charges similar to terrestrial telephone services.

They would go a long way to overcoming the present communication difficulties experienced by people using the high frequency Royal Flying Doctor Service network.

A system in which a homestead could switch off the telephone in order to receive "school of the air" broadcasts was much cheaper than having a dual system in which the telephone links were left open while the school of the air was on, he said.

Emergency calls could still be made, he said.

Request for Tender Document

Canberra THE FINANCIAL AUSTRALIAN in English 30 Oct 80 p 1

[Excerpts] The Federal Government has called tenders for probably the most expensive communications equipment ever sought in Australia--the National Communications Satellite System.

The "request for tender" document covering the space and ground segments of the national communications satellite system was released in Sydney today.

Tenders for the equipment close on March 2 next year and it is expected that a contract will be placed for the space segment of the earth stations towards the end of 1981.

Tenders are being called for the satellites and the associated ground control equipment which will be purchased by OTC, and six different classes of communications earth stations.

CSO: 5500

NEW 'ETHNIC' TV CHANNEL TO COMMENCE OPERATION

Interference With Radio

Melbourne THE AGE GREEN GUIDE in English 23 Oct 80 p 2

[Text] The arrival of multicultural television is going to cause problems for thousands of amateur radio operators in Australia.

Many around Sydney and Melbourne will have to curtail their operations because of potential interference with Channel 0.

The problem, which has been a long-running dispute between the amateur operators and the Federal Post and Telecommunications Department, is that the Channel 0 frequency is close to the frequencies used by the operators in the six-metre band.

Channel 0, which uses the same frequency as the old Channel 0, broadcasts on a frequency of 45 mHz to 52 mHz while Australian amateur radio operators are restricted to 52 mHz to 54mHz.

The Federal president of the Wireless Institute of Australia, Mr Peter Wolfenden, says the frequencies are too close. He compares it with a bicycle path and a footpath side-by-side and says there is bound to be some interference between pedestrians and cyclists.

There are other factors which complicate the problem. Amateur radio operators in the United States and other countries operate at a frequency of between 50 mHz and 54 mHz. The Australian regulations mean that the Australian radio buffs are cut off from their overseas colleagues on a substantial slice of those frequencies.

To help get around this problem, the Australian operators have been trying for two years to get permission to use a frequency of 50 mHz to 50.15 mHz in areas not covered by the Channel 0 broadcasts or at times when Channel 0 is not broadcasting.

Mr Wolfenden says the P and T department has not given an official response to the appeal but says it is still considering the problem.

He says the amateurs will have to severely curtail their operations or stop using the six-metre band (52 mHz to 54 mHz) completely during Channel 0 transmissions.

This will be easier in Melbourne where radio operators are used to having a Channel 0. In Sydney houses where there has never been Channel 0, amateurs may be more reluctant to impose the voluntary restriction.

Reply to Criticism

Canberra THE AUSTRALIAN in English 24 Oct 80 p 3

[Article by Errol Simper: "Ethnic TV Goes to Air Tonight"]

[Text]

AUSTRALIA's controversial new multi-cultural television channel will be launched tonight by Mr Bruce Gyngell, the man who 24 years ago introduced television to the nation.

At 6.30 this evening, Mr Gyngell will appear on Channel 0 in Sydney and Melbourne (Channel 28 on ultra-high frequency sets) to say: "Ladies and gentlemen, good evening and welcome to multi-cultural television. . . ."

Mr Gyngell, chief executive of the Special Broadcasting Service and formerly chairman of the Broadcasting Tribunal, said in Sydney yesterday the new service was the most significant event in Australian broadcasting history.

"I believe it will change the viewing habits of the nation," he said.

"It will open a new cultural experience to a whole range of people.

"We have to recognise that many people living in Australia have two cultures — the old and traditional, and the new."

A preview of SBS programs will follow Mr Gyngell's formal introduction. The first program will be Who Are We?, a documentary on the history of migration to Australia, made by former ABC journalist Peter Luck.

Mr Gyngell said he couldn't agree with critics who said the $22 million Commonwealth-financed service would be racially or socially divisive.

"I believe it will give people an opportunity to see other programs and other cultures.

"Through seeing will come understanding, tolerance and social cohesion," he said.

"Xenophobic fear is usually a fear of the unknown. I think this could dispel the stereotypes."

Mr Gyngell said he hoped the new service, which will broadcast in prime-time seven days a week, will have an audience of at least 50 per cent "Anglo-Saxon Australians".

Research over two years has shown that about a quarter of Sydney and Melbourne residents with television sets were born in non-English speaking countries.

Though soccer commentaries will be in English, SBS programs will generally be screened in the language of their country of origin, with English subtitles.

The service will transmit through ABC towers in Sydney and Melbourne.

CSO: 5500

NO BACK-UP MICROWAVE LINK NOW PLANNED FOR WEST

Perth THE WEST AUSTRALIAN in English 23 Oct 80 p 14

[Text] A senior Telecom official in Perth yesterday defended the cost of telephone services against allegations of excessive profits and inefficient service.

Telecom's chief operations manager in WA, Mr John Magee, said that the average cost of installing a new about $3000, taking into account Telecom's investment in the equipment necessary to prove the service. [as published]

But the installation fee for a new telephone service was only $120, with an annual rent of only $85, payable quarterly.

Mr Magee said that Telecom's annual profit--$190 million last year--represented a return of only about three per cent on assets.

"We are the biggest corporation in Australia, but we are a poor performer in profit terms compared with private enterprise," he said.

"We are disturbed at criticism of our public image, but people forget that we are required by law to fund our own operations.

"We cannot rely on funds from general revenue and we need to generate at least 50 per cent of the money required for our capital needs."

Mr Magee said that Telecom was currently spending about $1700 million a year to operate and maintain Australia's communications system and to repay previous borrowings.

A further $1000 million was being spent on Telecom's capital-works programme.

WA accounted last year for about $195 million of telecom's income, representing about 10 per cent of the total.

Spending in WA last year totalled $180 million.

Mr Magee said that from Telecom's million telephone accounts in WA last year there were 6400 customers' queries out of which 138 funds were paid out for overcharged accounts.

CSO: 5500

EDITORIAL RAPS PLANNED MICROWAVE LINK TO EAST

Perth THE WEST AUSTRALIAN in English 25 Oct 80 p 6

[Editorial: "A Poor Line"]

[Text] The need for a back-up communications system to bolster WA's single microwave link to the Eastern States should have become obvious after equipment failure at Kalgoorlie during an industrial dispute last year went within 10 minutes of blacking out WA's major communications with the rest of the world.

It is hard then to understand why, 15 months later, Telecom Australia has yet to give priority to completing a second microwave circuit across the top of Australia. Instead, a new $16 million link through the Kimberleys will stop at Kununurra in July 1983--only 400 km and $5 million short of a complete east-west loop through Katherine, in the Northern Territory.

The new Kimberley microwave system is good news for residents and businesses north of Port Hedland who have long suffered the frustration of an obsolete open-wire circuit to Wyndham susceptible to traffic accidents, the weather and even birds sitting on the overhead strands.

But Telecom's announcement to upgrade WA's existing Eastern States link--using the same towers and power supply across the Nullarbor to double its microwave capacity--puts all the eggs in one basket. It comes as cold comfort from an organisation that made a profit of $15 million from WA subscribers last year.

CSO: 5500

BRIEFS

TV FOR EAST KIMBERLEY--Television will shortly be a reality in the remote East Kimberley area. Another fortnight should see television being transmitted into homes in the Hall's Creek, Wydham and Kununurra districts. The programme to be received is the ABC. Its source is the National ABC, coming from the studios of Channel 2 in Perth. It will travel to Carnarvon via a coaxial cable and on to the uplink to the satellite. Within the satellite, the signals are converted, amplified and returned to earth on the down-link. This down-link has a very wide dispersion and the signal is able to be received in most parts of Australia. At selected locations, very large antenna (or "dish") are placed to recover and collect this tiny satellite signal. After recovery by the antenna, the signal is transformed and transmitted over our local areas on normal television channels. The channels involved for the East Kimberley region are--Kununurra, channel 9, Halls Creek, channel 8 and Wydham, channel 10. Telecom Australia is installing this service for, and on behalf of, the Department of Posts and Telegraphs. [Excerpt] [Perth THE WEST AUSTRALIAN in English 30 Oct 80 p 15]

CSO: 5500

DACCA RADIO TO EXTEND BROADCAST TIME

Dacca THE BANGLADESH OBSERVER in English 1 Nov 80 pp 1, 12

[Text] The Dacca station of Radio Bangladesh (National Broadcasting Station) will start non-stop transmission from 6-30 in the morning till 1 a.m. midnight from November 16. This brings the transmission to a total of 20 hours in every 24 hours of the day. A number of transmitters will be used simultaneously says a Press release.

The extension of transmission hours has been necessitated to accommodate some development oriented programmes of national importance and to enlarge the present space for more programmes of educative and entertainment value. Some of new programmes include, "Niz Gune Khoma Korben"--a documented reportage on social evils, Abhijan a children's programme focusing on juvenile talents and "Literaria" an English magazine programme projecting national activities in the literary and cultural arena of the country for English listeners in and outside the country.

Besides newsreel programmes will be broadcast in morning as well. The artistes of regional stations will now be projected in a special music chunk every week so as to bring them in the mainstream of national forum. More programmes for rural listeners will be broadcast daily besides the existing ones.

It may be recalled that Dacca station started its first broadcast in 1939 with a transmission time of 5 hours 30 minutes. During 1942-45 it was raised to 8 hours 30 minutes. During 1945 to 55 transmission time was enhanced to 10 hours 30 minutes which was again raised to 14 hours in 1965. From 1965 to 1971 Dacca station used to broadcast 15 hours programme divided into three transmissions. From 1972 to 1978 the total transmission time was 16 hours which was increased by 30 minutes in 1979. From November 16, 1980 the total non-stop transmission hours will be 20 hours in one single transmission beginning from 6-30 in the morning till 1 a.m. midnight.

CSO: 5500

TELECOM AID TO SOUTHEAST ASIA, LATIN AMERICA PLANNED

Madras THE HINDU in English 12 Nov 80 p 6

[Text] New Delhi, Nov. 11.

Indian expertise in the field of telecommunications has made inroads into West Asia and Africa and is poised for entering into South-East Asia and Latin America.

This has been made possible by the two-year-old Telecommunication Consultants India Limited (TCIL)--one of the youngest public sector undertakings under the Communications Ministry--which has bagged so far Rs. 21 crores worth of orders for consultancy services, and training of technicians besides installation and maintenance of telecom network.

The Chairman and Managing Director of TCIL, Mr. M. P. Shukla, told pressmen here today that by the end of the current year the total orders booked would be around Rs. 25 crores.

Mr. Shukla said that one of the reasons for the success of TCIL was that Indian expertise was at par with that of other well-established firms abroad. At the same time its operating cost was lower.

TCIL was now endeavouring to expand its business in West Asia and Africa and also get a foothold in South-East Asia, where Japanese firms were well entrenched. In this area, TCIL was trying to join some of the big international groups like Western Electric, ITT, Siemens, Bell Canada International, etc., who had been operating in this area for a number of years. Discussions had been held with these firms and he hoped that the outcome would be encouraging.

CSO: 5500

SATELLITE COMMUNICATIONS POSSIBILITIES TOLD

New Delhi PATRIOT in English 9 Nov 80 p 5

[Text]

BANGALORE, Oct 8 (UNI)—India's first experimental communication satellite, APPLE (Arianne Passenger Payload Experiment) is expected to be moved to French Guianese space centre of Kourou in South America in the next 10 days for launching early next year.

Prof U R Rao, Director of the Satellite Centre of the Indian Space Research Organisation (ISRO) said here yesterday that the satellite was going through final testing at Toulouse, France. Delivering a lecture on "space", organised by an educational trust he said the Indian National Satellite (INSAT-I) would be in orbit by February 1982 to provide services in the fields of television, communication and meteorology. It would have three television channels.

Prof Rao said the remote sensing satellite, to be ready by [illegible], would have higher resolution enabling identification of every agricultural field in the country for detailed study.

He said that much progress had been made in the field of satellite designing and building in the country since Aryabhata. Similarly in rocketry from mere sounding rockets, the country had now developed competence to place the 35 kg Rohini in orbit. The country would be able to launch satellites weighting 500 to 600 kg by 1986.

Tracing developments in the field of space technology, Prof. Rao said in recent years they were such that man could hope to set up satellite power stations in space in the next 20 to 30 years.

CSO: 5500

FURTHER AUTOMATION, EXPANSION PLANNED FOR TELEPHONE NETWORK

Bangkok DAO SIAM in Thai 21 Oct 80 pp 3, 10

[Article: "There Will Be 1 Million Telephones In Use Throughout the Country In 3 Years. More Than 1 Billion Baht Will Be Used"]

[Text] Mr Chalo Manirin, the head of the Planning and Projects Office of the Telephone Organization of Thailand, has stated that the cabinet has passed a resolution expressing approval of the Telephone Organization's 1977-1984 economic development projects. The number of telephones will be increased from the existing 400,000 to 740,000. Also, public long-distance telephone service will be expanded to 422 rural communities. The money budgeted totals 10.8 billion baht. At present, the Telephone Organization is stepping up the rate of the work so that the development of telephone service is carried on rapidly and so that service is adequate for the needs of the people. The Telephone Organization has made plans for the expansion. It has received a loan for this from the World Bank, which has allowed it to borrow additional monies. Because of this, before 1984, people throughout the country, both in the cities and rural areas, will have approximately 1 million telephones for use. This is an increase of more than 500,000 telephones over the present number of telephones.

When asked about the service for telephone users in fiscal year 1981, the head of the Planning and Projects Office responded by saying that, besides installing an additional 54,000 telephones, equipment for checking telephones will also be installed so that repairmen can be sent to repair the telephones quickly without having to wait for the telephone users to report the breakdown. Also, an attempt will be made to reduce the number of complaints about telephone service and keep them within the stipulated number. In addition, more public telephones that can be used 24 hours a day will be installed in the communities in order to make things more convenient for telephone users.

11943
CSO: 5500

THAILAND

BRIEFS

TELEPHONE SERVICE IN NORTH--Chiang Mai: Mr Sophon Khongcharoen, the acting head of the Northern Telephone Exchange, has disclosed that the number of telephones will be increased in the city. The existing 3,000 telephones will be supplemented by another 2,000 telephones. These will be added in Mae Ping. In Chetyot, the existing 1,000 telephones will be supplemented with another 1,000 telephones. This is expected to be completed in 1981. The major exchange that is presently under construction on Thung Hotel Street will handle 5,000 telephones. Besides this, things are being expanded to Mae Ay, Am Koi, Fang, Chiang Dao and Mae Chaem districts. These will be completed in 1983. The projects in Doi Tao, Sansai, Doi Saket, Phrao, Mae Taeng, Sa Moeng, Mae Rim, Hot and Hang Dong districts will be completed in 1984. The telephones installed in these outer districts can dial directly; they do not have to use the exchange operator. In January, direct, long-distance telephone service in the north will be implemented. It will not be necessary touse the operator. [Text] [Bangkok BAN MUANG in Thai 4 Nov 80 p 6] 11943

AUTOMATIC DIAL IN RATBURI DISTRICT--Damnoen Saduak: On 17 October, the Telephone Organization of Thailand will open automatic long-distance telephone service from the Damnoen Saduak telephone exchange in Ratburi Province. Callers can dial direct inside the 032 area code area, which includes the Ratburi, Phetchaburi, Ban Pong, Photharam, Hua Hin, Prachuap Khiri Khan, Pranburi, Thap Sakae and Cha Am telephone exchanges. All 10 [sic] telephone exchanges can dial each other directly and do not need to use an operator. For those who use automatic, direct long-distance dialing, the automatic long-distance calls made will not be listed separately from the local calls made. This is because the number of calls will be recorded on a meter. The person with this telephone number will be responsible for the charges. When a person calls long-distance within the 032 area code area, the calls can be assisted by the operator as before if desired but there will be an additional service charge. The service charge is 10 baht per call during the day and 20 baht per call during the night. If there are any questions, the Damnoen Saduak telephone exchange can be contacted beginning now. [Text] [Bangkok BAN MUANG in Thai 14 Oct 80 p 6] 11943

CSO: 5500

JAPANESE INSTALL NEW TELEPHONE EXCHANGE EQUIPMENT

Buenos Aires LA PRENSA in Spanish 26 Sep 80 p 16

[Text] The National Telecommunications Company will inaugurate next Monday at 1130 hours the new equipment of the Avenida station, exchange 33, installed on the third floor of the building located at Calle Defensa 143, Buenos Aires.

It has been pointed out that this is the first local exchange using Japanese semielectronic technology for stored program control that has gone into operation in this country, and that the system, known as "Fletex-100L," was installed and put into working condition by the Fujitsu Company Ltd.

Services rendered by this station were not affected during the installation of the new equipment which will start operating at midnight.

It should be underlined--the official press release states--that the change in technology will be totally effected in one single operation, that is, the 10,000 lines that this station has will work in the new system simultaneously.

Characteristics of the New Equipment

All subscribers of the station must bear in mind when making a call that if there is no answer after 60 or 70 seconds of having initiated the call, the customer will be automatically cut off to free the communication lines and he will get a busy signal. If, when making a call, he does not dial the next digit within 9 or 10 seconds he will also get a busy signal. At this point the customer must hang up and start the procedure over again.

Good Things About the System

The new equipment has a recorded announcement that tells the user about a change in number or if a number requested in the 33 exchange has been disconnected.

If the subscriber leaves the phone off the hook he will get a high pitch signal after 70 seconds that can be heard at about 4 meters to indicate the situation.

This new telephone infrastructure--it was further stated--has been established to render a series of special services that will be offered in the future to subscribers. The actual space taken by the new equipment is about 80 percent less than what it used to take at the old station.

Two views of the new installations and equipment.

The reliability of the new equipment, which is controlled by an electronic computer, will considerably reduce the inconveniences caused by present switching equipment.

The present Avenida station has been in operation since 1923.

What the Japanese Company Says

Fujitsu Argentina, in turn, added the following details to the previous press release:

The Avenida telephone station, located at Calle Defensa 143, was servicing approximately 9,000 subscribers but, having been built about 50 years ago, its equipment was obsolete and incapable of offering good service.

For that reason and in conformity with its plan of action, the National Telecommunications Company entrusted Fujitsu Company Ltd. with the installation and testing of replacement equipment for the Avenida station, placed there on loan as part of the demonstration of quality and reliability of the equipment included in International Public Bid No 130P/79 for the manufacture and supply of electronic stations in the next few years.

The implementation of this new technique entrusted to Fujitsu Ltd. for a stored program electronic switching system places National Telecommunications Company on an international level in the area of local communications.

This switching equipment, known as Fetex 100, has a stored program control system into which the most advanced technology has been incorporated, including a stored program computer. The various control parts of the switching equipment are totally made up of electronic components, with communication control being carried out by the program stored in the computer memory. Therefore, besides making it possible to perform communications switching rapidly and safely, various types of new services can be offered.

For instance, this station will soon possess international direct dialing which will be offered to all subscribers as a regular service. In addition, by operating in conjunction with push-button telephones, new services are possible, such as abbreviated dialing, holding of calls, etc., which would greatly improve communications services.

9674
CSO: 5500

INSTALLATION OF 300,000 LINE TELEPHONE EXCHANGE

Algiers EL MOUDJAHID in French 4 Nov 80 p 3

[Text] The installation in Constantine of a new 30,000 line telephone exchange of which 10,000 lines are in operation will not only decongest current telecommunications traffic but will also satisfy thousands of requests for telephone service.

This new exchange, situated at the border of Daksi city, was inaugurated last Monday morning by Chaabane Ait Abderrahim, governor, accompanied by Abdelkrim Abada, member of the Central Committee, national commissar of the Party, the chief of the military sector, the presidents of the APW [Governorate Popular Assembly] and APC Assembly, the delegate of the daira and the mouhafadha, the deputy director of Post and Telecommunications, leaders of the governorate Security Organization and of Darak Al Watani, etc.

This exchange serves to complete a rather dense network of communications provided by the exchanges of Coudiat and Martyrs whose potential capacity is as much as 20,000 lines.

For the moment there is only the first section of this exchange; the second is now under construction and is to have 8,000 new lines.

With the construction of a fourth telephone exchange at Bellevue with a 30,000 line capacity and another for the same strength included in the 5-year plan, Constantine will have at the end of this decade around 110,000 lines, compared to scarcely 4,000 in 1962.

Built by the DNC [expansion unknown] and outfitted according to the latest techniques the Daksi exchange also has a computer center which has already begun to function with a data reception center pending the putting into operation of a data processing center, all this within the framework of a national information network. Entry into service of this exchange, whose prefix is 68, the 2 others indicating Constantine being 93 and 94, has already permitted the entering of 1,700 subscribers on 94 and 850 on 93.

Moreover 60 new subscribers from the areas surrounding Daksi have already been connected and it is even planned to add the subscribers from Al-Khroub.

9772
CSO: 5500

BRIEFS

TELECOMMUNICATIONS STATION PROPOSAL--Luanda, 26 November (AFP)--The official Angolan Press Agency, ANGOP, announced in Luanda on Wednesday that Angola will propose the creation of a telecommunications station to be linked with the Indian Ocean satellite during the forthcoming Coordination Conference for the Development of Southern Africa (CCDAA). The agency points out that currently in order to call Salisbury from Luanda it is necessary to pass through Europe. The Angolan telecommunications earth station which provides international communications by satellite is in fact linked to the Atlantic satellite, whereas the majority of southern African countries are linked to the Indian Ocean satellite. Angola, Mozambique, Botswana, Tanzania and Zambia will participate in the second CCDAA, which opens in Maputo on Thursday. [Text] [AB022024 Paris AFP in French 1140 GMT 26 Nov 80 AB]

CSO: 5500

URTNA TECHNICAL COMMITTEE MEETS IN COTONOU

Cotonou EHUZU in French 14 Oct 80 pp 1, 6

[Text] Our country, the People's Republic of Benin, is serving as host in Benin since yesterday to the meeting of URTNA's (African National Radio Television Broadcast Union) Technical Commission. The commission's principal task is to outline the main topics to be followed by the member states in regard to communication and information. During the course of 3 days it will seek to find ways and means which will help in elaborating a technical plan of exchange between the African countries. The above commission groups together seven countries, including Benin, who will assume its presidency, Nigeria the vice presidency, Ghana, Mali, Algeria, Tanzania and Malawi. The opening ceremony which took place in the Dome of the Ministry of Foreign Affairs and Cooperation, was presided over by Comrade Martin Dohon Azonhiho, minister of information and propaganda in the presence of the officials of his ministry.

In his address the minister stressed the importance which the present meeting assumes. Thus he specified that URTNA's Technical Commission is meeting at a time when all over the world an awakening exists due to the Third World's effective action on the need of a remodeling, on international lines, not only in the economic field, but also in the field of communication and information. In addition, Comrade Azonhiho also stated that information must not only serve as a basis for economic and social development, but also for the rapprochement of peoples for the purpose of universal peace. "Thanks to telecommunications, humanity is on the verge of a new phase in its existence, increasingly dominated by its wish for better living, liberty, progress, accord and peace," he added.

Referring to the serious imbalance affecting information circuits, Azonhiho observed that the situation would worsen with the appearance of satellites, if strict and concerted action were not taken on an international level.

The minister then invited all the URTNA member states to close ranks and to work together in order to coordinate their efforts towards the development of the appropriate systems for our continent. "The questions facing us are fundamental," Azonhiho continued, "they are not easy to solve, and we cannot hope to find instant, complete, and definite answers to each one of them at the present meeting."

The minister of information and propaganda then urged the members of the commission to point out the right direction and to give an impetus to URTNA's efforts, for the purpose of:

--the promotion, maintenance and development of the cooperation between the members;
--the support in all the fields of the interest of management of broadcasting and television organization, and for the establishment of relations with other managements and their group;
--the coordinated analysis of all issues involving radio and TV broadcasting;
--and finally for effective exchange of information on all matters of general interest.

In addition, it should be noted that all the participants listened to a message by the UPAT (Panafrican Telecommunications Union) representative, Brother Kamano, in which he insisted, among other things, on the importance of an autonomous telecommunications system by satellite for Africa, a system which would favor and develop an exchange of programs for radio and TV broadcasting.

CSO: 5500

KOUNTCHE VISITS SATELLITE EARTH STATION

Niamey LE SAHEL in French 3 Nov 80 p 3

[Article by Kailou]

[Text] Yesterday morning, the chief of state, Col Seyni Kountche, visited the Goudel earth station and the construction site of the future earth station located 30 km from Niamey on the Tillabery Road.

On this construction site the chief of state was able to gauge the status of the project. Construction work is progressing satisfactorily and will be completed near the end of March 1981 as scheduled, despite a delay in the arrival of some materials. This delay was due to the break in the Fada-Niamey Road.

The future earth station, the first of its kind in Africa, will have two parabolic antennas: one with a diameter of 11.8 meters for domestic use and the other with a diameter of 32.5 meters and a height of 42-43 meters for international use. The international antenna weighs 450 tons, not counting the weight of the mechanism, which is 140 tons.

The purpose of this station is to perfect telecommunications in Niger, particularly telephone and television telecommunications.

As early as the end of March, regions of Arlit and Diffa will be serviced by telecommunications. Therefore, Nigerois will be able to watch the Diffa Festival on the small screen, which will experience unprecedented development precisely because of direct retransmissions of all kinds of performances.

However, there is more to it than that. Thanks to the two earth stations (Goudel and the new earth station), Nigerois will be able to telephone directly to London, Paris and Washington. That is a real accomplishment which will put an end to the telecommunication system now in operation. To telephone Lagos at present, it is necessary to be relayed through London.

Thanks to the future earth station, Nigerois will be able to escape from this established order. They will even be able to benefit from it in their businesses. Will it not be possible to telephone to businessmen in Beijing in record time? Henceforth, the other African countries will come to us to telephone one another on the one hand and foreign countries on the other hand. Therefore, the new station will simuntaneously bring rapidity of communications, financial benefits, an attraction of clients and perfect reception of television transmissions.

The profitability of such a vast project is only possible with judicious exploitation and perfect maintenance. During his visit, the chief of state also brought these points to the attention of the Minister of Posts and Telecommunications. However, it is quite interesting to note that officials of the OPT [Office of Posts and Telecommunications] did not wait for these remarks by the chief of state to think about the proper management of this highly sophisticated equipment.

A training program has already been implemented. It will involve refresher courses and the training of about 339 employees at all levels.

In this connection, today is the beginning of a retraining phase for personnel of the hertzian network. On 1 December, another retraining phase for the communications center and urban network will start. The specialized training of personnel and the training of instructors will take place in France.

However, you may ask this question: why is the construction site 30 km from Niamey?

The choice of this site was dictated by a concern for security and profitability. Frequent industrial interference around Niamey will be avoided.

The new earth station is the culmination of very commendable efforts which the state is exerting unceasingly in the telecommunications sector. The Nigerien state, aware of the decisive role of telecommunications in the development of a country, has not skimped on funds. Over 24 billion [monetary unit not given] have been allocated for this purpose. At present, construction worth 16 billion has already been completed.

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CSO: 5500

PERMITS FOR STATE TV STATIONS NOT ISSUED YET

Kaduna NEW NIGERIAN in English 6 Nov 80 p 7

[Article by Nkem Agetua]

[Text]

NO state government has been allocated air frequency or granted licence to operate own television station, Alhaji Akanbi Oniyangi, Minister of Communication, has said.

Briefing the Senate Committee on Communication on Tuesday, about the activities of his ministry, Alhaji Oniyangi said that 'to the best of my knowledge, no state government has been given a licence.'

Alhaji Oniyangi who was answering a question on the alleged seizure of television frequency licence previously granted the Lagos State Government also stated that it was illegal for a state government to seize a frequency for itself.

'Air frequency belongs to all of us and when granting licences the present and future situations must be considered,' he said.

Alhaji Oniyangi added that his ministry was not trying to prevent any state government from owning its own TV station. 'But when doing that, proper deliberations must be held to ascertain the best way to share out the frequencies when the time comes,' he said.

On the delay in completing the projects being under taken by his ministry, especially the laying of underground cables from Lagos to Kaduna, Alhaji Oniyangi blamed the National Assembly.

He said that because of the long time it took the Assembly members to pass the president's 1980 budget, money was not available to prosecute the projects.

Answering question on why it was not possible to get some parts of the country on telephone, Alhaji Akanbi Oniyangi said it was because of the single transmission line available in the country.

'The old transmission line which was revamped to meet the high traffic demand is our greatest headache,' he said.

On the poor services being rendered by the P & T, Alhaji Oniyangi said that plans were under way to correct it.

One of such plans was to make the ministry autonomous. Towards this end, a draft legislation which would make the ministry a corporation was already with the Ministry of Justice, Alhaji Oniyangi told the committee members.

Asked why this was necessary, he pointed out that telecommunication was not a social service and as such should be given room for revenue generation.

CSO: 5500

BRIEFS

SATELLITE COMMUNICATIONS STATION--A ground satellite station was commissioned yesterday in Sao Tome establishing a telecommunications-via-satellite link between the Democratic Republic of Sao Tome and Principe and the outside world. [Excerpt] [LD281005 Lisbon Domestic Service in Portuguese 0001 GMT 27 Nov 80]

CSO: 5500

BRIEFS

RADIO-TELEVISION TREATY--Hanover, 3 Dec (DPA)--The Lower Saxony diet, the last of the three regional parliaments concerned, on 3 December unanimously approved the New State Treaty to run North German Radio and Television as a three-state network. This ends a 2-1/2 year dispute about the network. The treaty is to come into force on 1 January 1981. Its most important provisions are the abolition of the monopoly clause by 31 December 1982, the introduction of regional programs to be run by the broadcasting houses in Hamburg, Kiel and Hanover, and new arrangements for appointments with the aim of reducing the influence of political parties in the broadcasting council in favor of participation by socially relevant groups and organizations. [Excerpt] [LD070322 Hamburg DPA in German 1920 GMT 3 Dec 80 LD]

CSO: 5500

PTT'S 1981 MAIN BUDGET FEATURES ANALYZED

Paris ELECTRONIQUE ACTUALITES in French 31 Oct 80 pp 1, 9

[Article by D. Levy: "The 1981 PTT [Posts, Telephones and Telegraphs] Budget Calls For Increased Temporary Exchange Orders and More Work On New Technology"]

[Text] The 1981 draft PTT budget, submitted by Mr Segard, secretary of state, in Paris, on 23 October, shows equipment credits totaling 26 billion francs for telecommunications and 1.85 billion francs for the postal service. In the area of telecommunications, an expansion of telephone facilities will take place in 1981 totaling 17,550,000 lines (as compared with 15,800,000 this year), generalized orders for electronic exchanges (100 percent of the ordered exchanges will comprise such equipment, and two-thirds of them will be provisional), the arrival on the market of the first long-range telecopiers and T-83 sets and the beginning of the Videotex experiment in Velizy (midyear). Particular efforts will be made as well in the area of research and development of new technologies.

Results of the Seventh Plan

The results of the Seventh Plan, which comes to a close at the end of the year, enabled Segard to point out the substantial results of the implementation of the 1975-1980 priority action program which was adopted by the government with a view to providing the country with a modern telecommunications network. "Whereas the Seventh Plan called for an investment of 104 billion (1975 francs), the appropriations, in fact, did not exceed 91 billion: Even though the investment figure was below the planned amount, French telecommunications will have outstripped most of the planned targets." Segard noted the number of main trunk lines which were scheduled to total 15,500,000 at the end of the year but, in fact, will total 15,800,000 (compared with 7,150,000 in 1975).

"Such results were made possible in particular thanks to an energetic management effort and a policy toward suppliers largely based on competitiveness and, above all, the rapid conversion to electronic switching which led to substantial productivity improvements and better quality of services," Segard emphasized.

New Motivations

By the end of 1981 there will be a total of 17,550,000 trunk lines; an additional 20,000 public telephones will be installed, raising the total to over 120,000.

Furthermore, the quality of telephone services will improve, exceeding the 90 index (as against 85 currently and 57 five years ago). Furthermore, electronic switching will be developed (100 percent of the ordered exchanges will be electronic); the share of temporal installations will exceed two-thirds of all orders, accounting for over 1.3 million sets (E-10, E-12, MT-20 and MT-25).

However, in a way we have learned to accept as ordinary such quantitative and qualitative improvements in the telephone system. That is why projections related to the growth of telephone lines (19.3 million in 1982 and 25-28 million in 1985) no longer amaze anyone. A new leaf has been turned.

Motivations within the telecommunications system itself are changing. So far the incentive of telecommunications personnel was the ALP (increased number of trunk lines). Another motivation is already developing, known as new technologies. Considerable funds will be allocated for the development of such technologies which constitute the future of French telecommunications. Appropriations for studies and developments granted by the DAII to industry (one billion francs in 1980) will seem minimal. The director general of telecommunications has already mentioned the figure of four billion francs to be invested in 1981 in telematics.

In this area, the Velizy experiment, which would be a test of all possible Videotex services, is scheduled to begin at the end of the first half of 1981. The PTT will equally participate in a double capacity in the experiment of making electronic payments with the help of the memory cards in Lyon: On the one hand, as suppliers of technological facilities by the DGT [General Office of Telecommunications] and, on the other, together with the CCP as providers of services. Furthermore, the DGT is preparing the optical fiber cables to be laid in Biarritz, the launching of the Telecom-1 satellite, and the supply of 250,000 telephone subscribers in Ille-et-Vilaine with an electronic telephone directory. Finally, an initial experiment of telephone bills showing individual charges will be started in Lille next month.

Development of the Industry

Another feature of 1981 will be a "change in mentality" in the telephone industry. On the one hand, the builders will be faced with meeting the very substantial orders from foreign countries accepted in 1979. Bearing in mind the unprecedented pace of exports, this would not go smoothly. Nevertheless, our industry will be challenged with proving its maturity in this test if it is to pursue its career as an exporter, for the competition is around the corner.

On the other hand, the industrialists will be putting on the general market the first long-range telecopiers and, along with PTT sales, T-83 keyboard sets. Even though the operation will be started on a small scale in 1981, the manner in which our manufacturers will undertake this new "strategic mutation," which, eventually, will greatly reduce their dependence on the administration, will give an idea on their ability to adapt themselves to the big market on which a large number of new products will be placed in the forthcoming years.

As far as the postal service is concerned, the 1981 appropriations include 83 million francs for the opening of 460 new finance terminals in the offices of the Marseille and Lyons areas (raising, at the end of the year, the total number of such terminals to 690), and 60 million francs for the installation of 55 automatic ticket machines (added to the current 390). The automation of mail processing will be continued through the construction of six new sorting centers.

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CSO: 5500

BRIEFS

PTT 1981 BUDGET--The National Assembly approved the 1981 PTT budget on 14 November. This budget is for more than 100 billion francs and is 10.2 percent larger than the 1980 budget. With respect to telecommunications, the programs authorized will call for 26 billion francs this year, as opposed to 25.5 billion francs [last year]. [Text] [Paris ELECTRONIQUE ACTUALITES in French 21 Nov 80 p 9]

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